# Food Packer

## Canning Glasspacking Freezing

April, 1954

**Man-of-the-month: Carroll L. Griffith**

As president of Griffith Laboratories, Inc., he has seen his company rise to a position of prominence in this country and others as well. Page 64.

• • •

**Madison's new bulk-sugar installation.**

Ohio pickle & mayonnaise packer eliminates wastage and much labor, and increases sanitation under new sugar distribution system. Page 26.

• • •

**Streator uses Agi-Vac process on corn.**

Cannery packs white whole-kernel sweet corn in large containers under vacuum. Page 40.

• • •

**La Choy and Hungerford redesign packages.**

Two outstanding companies gain sales appeal and improved acceptance by bringing labels and containers up to date. Page 36.

A Vance Publication

**The National Magazine of Production and Management**

# woodruff seed

FOR A BETTER PACK OF *Beans*

Section of F. H. Woodruff & Sons' Breeding Grounds at Sacramento, Cal.

Inset shows a Woodruff introduction, Kinghorn Special Wax Beans, one of the most popular canning and freezing varieties in use today.

## NEW STRAINS

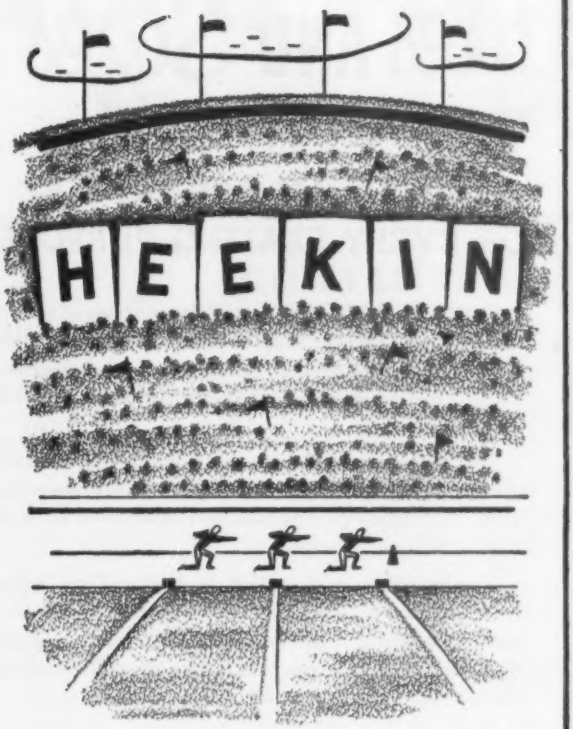
**worth your consideration, result from the kind of BREEDING research and patient development for which the name WOODRUFF is famous. Vast trial grounds, strategically located throughout the country give you better strains, more often, more quickly. Depend on the name WOODRUFF for quality.**

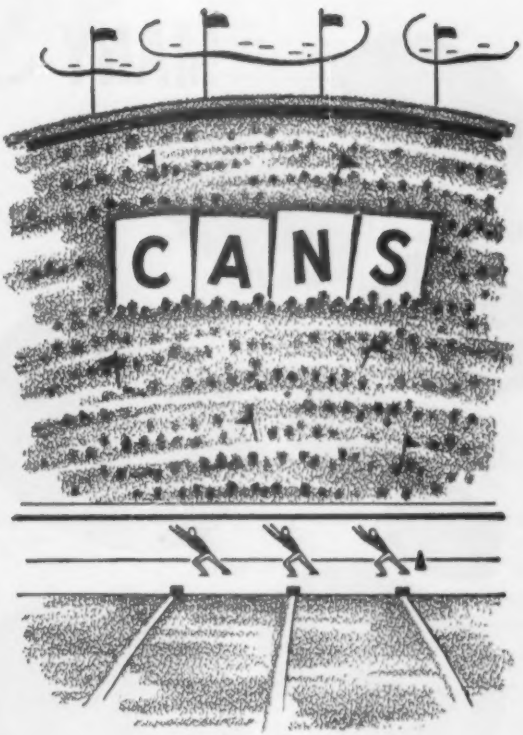
F. H. Woodruff SEEDS

# F. H. WOODRUFF & Sons, Inc.

*Seed Growers*

Milford, Conn., Bellerose, L. I., Salisbury, Md.,
Atlanta, Sacramento, Dallas, Mercedes, Tex., Toledo



Yes, there are many instances where canners should change for the better—and Heekin *Product Planned* Cans are a change for the better. Your product is too important to merely run on a production line. Every precaution, every improvement, every advantage that Heekin's fifty-three years of can manufacturing has developed should be YOURS. Get the full story on Heekin *Product Planned* Cans.

**Heekin** PRODUCT PLANNED **cans** ©

THE HEEKIN CAN CO., Cincinnati 2, Ohio

# MANY *Styles* AND *Sizes*

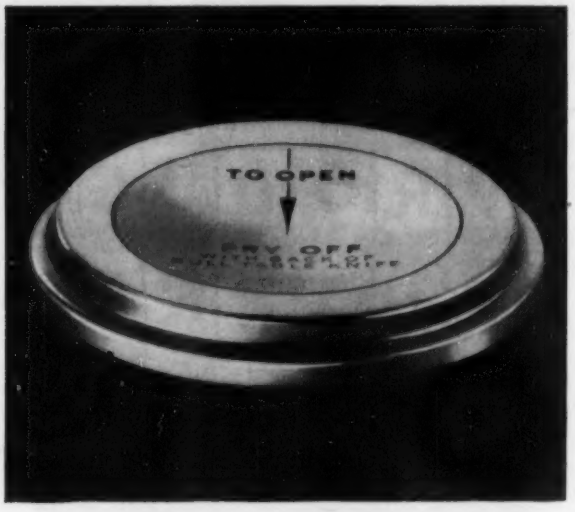
## ...THERE'S AN ANCHOR CAP FOR EVERY SEALING PURPOSE

ANCHOR HOCKING makes eleven styles of screw, lug, friction and vacuum closures for food products. Each is designed for specific sealing purposes—all provide dependable, economical, attractive and efficient seals.

For application of vacuum and friction caps, thirteen different types of Anchor Sealing Machines are available. They apply caps at speeds ranging from 20 to as high as 625 per minute.

The uniformly high quality of Anchor Caps is the result of practical research and engineering, careful selection, testing and control of raw materials, high manufacturing standards and thorough quality control through laboratory tests and regular inspections.

If you package or contemplate packaging in glass let us recommend and send samples of the closures best suited to your particular needs. The services of our Packaging Engineering and Research Laboratories are also available to help you solve glass packaging problems.




**Anchorvac® N Caps** are available in 11 sizes—27 to 83 mm.—lacquered, coated or decorated. Adaptable to all types of food products requiring a hermetic or vacuum seal. Anchor sealing machines apply these caps at speeds ranging from 20 to 625 per minute.

# ANCHOR HOCKING

**GLASS CORPORATION**
**LANCASTER, OHIO**

★

*The Most Famous Name in Glass*

# Food Packer

April, 1954

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## Events to Come

**May 2-3.** National Fisheries Institute annual convention, Hotel Cleveland, Cleveland, Ohio.

**May 10-12.** Ninth Purdue Industrial Waste Conference, Purdue Memorial Union, LaFayette, Ind.

**May 11-12.** Third Annual Sales Clinic, Pennsylvania Canners Association, Galen Hall Hotel, Reading, Pa.

**May 16-19.** Flavoring Extract Manufacturers Assn., annual convention, Hotel Biltmore, New York.

**May 16-19.** U. S. Wholesale Grocers Assn., convention & exposition, Kiel Auditorium, St. Louis, Mo.

**May 17-19.** Mid-year meeting of Grocery Manufacturers of America, Inc., Boca Raton Hotel, Boca Raton, Fla.

**May 20-21.** National Canners Assn., annual directors meeting, Statler Hotel, Washington, D. C.

**May 24-27.** Symposium on Instrumentation, University of Michigan, Ann Arbor.

**June 3.** Tidewater Canners Assn. of Virginia, annual meeting, Atlanta Hotel, Colonial Beach, Va.

**June 9-11.** Processed Apples Institute, Inc., annual spring meeting, Skytop Lodge, Skytop, Pa.

**June 13-14.** Michigan Canners & Freezers Assn., spring meeting, Park Place Hotel, Traverse City, Mich.

**June 13-17.** National Assn. of Retail Grocers, annual convention, National Guard Armory, Washington, D. C.

**July 15-16.** National Pickle Packers Assn., mid-year meeting, Drake Hotel Chicago.

**Aug. 17-19.** Fifth Western Packaging and Materials Handling Exposition, Civic Auditorium, San Francisco.

**Sept. 23-26.** Packaging Machinery Manufacturers Institute, 22nd annual meeting, Grove Park Inn, Asheville, N. C.

**Oct. 4-7.** Produce Prepackaging Assn., Inc., third annual conference & exposition, Shoreham Hotel, Washington, D. C.

There are several down-to-earth reasons why the H. J. Heinz Company and many other packers are using the Crown Vacuum Lug Cap. It helps sales because homemakers like this closure. They appreciate the dependable seal it provides. They are enthusiastic over its simple hand-removal and the excellent re-seal it makes over and over again. In the packing plant, the Crown Vacuum Lug Cap and machine that applies it make a fast and completely automatic vacuum sealing system . . . one that fits into modern production lines . . . that meets the requirements of up-to-date manufacturers.

For more detailed information on the Crown Vacuum Lug Cap, contact us by phone, wire or letter. We will show you why packers are saying this is the biggest improvement in vacuum packing in years.

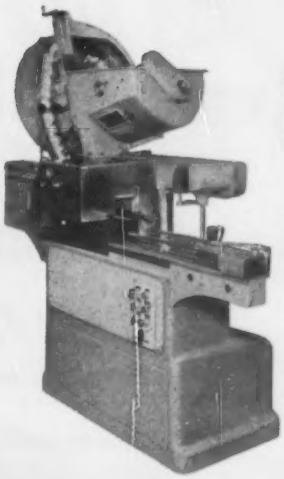
# PICKLES AND RELISH

**NOW SEALED WITH**

# CROWN *Vacuum Lug Caps*

### The Cem Vacuum Lug Capper

Applies Lug Caps automatically at fast speeds. Can be used with a wide variety of products. Handles a wide range of jar sizes and cap sizes. Changing from one cap size to another can be done in a matter of minutes.



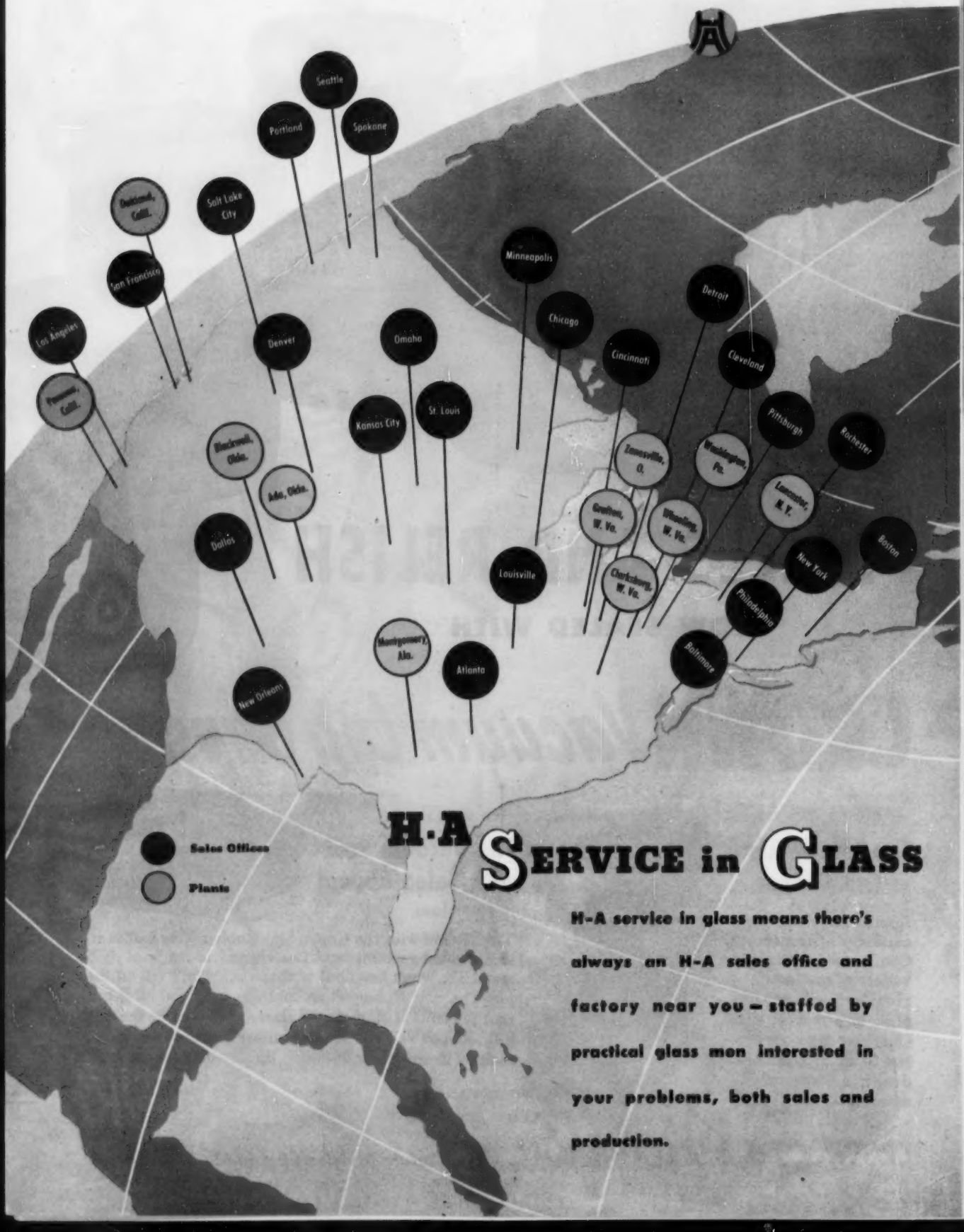
### The Vacuum Seal with Sales Appeal

This closure with the Crown Slip Rubber Ring makes an unsurpassed vacuum cap. The closure is made of rigid metal . . . won't bend out of shape . . . won't fall off the jar. The Slip Rubber Ring contains a special lubricant that prevents sticking to the glass and also keeps the ring soft and pliable if stored. This rubber is cut extra thick . . . seals off irregularities in the jar lip . . . won't cut through.

**CROWN CORK & SEAL COMPANY, INC.** *Closure Division • Baltimore 3, Maryland*

**Hazel-Atlas Glass Company**

*WHEELING, WEST VIRGINIA*




# H-A SERVICE in GLASS

**H-A service in glass means there's always an H-A sales office and factory near you — staffed by practical glass men interested in your problems, both sales and production.**

# Choose from fmc's FAMOUS FAMILY OF M & S FILLERS

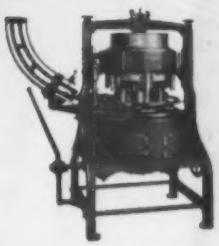
## The Standard for Progressive Canners because they are UNSURPASSED for ACCURACY

FMC M&S Plunger Fillers have set new standards for high accuracy filling. On the basis of thousands of accuracy of fill tests, by weight testing methods, M&S Fillers are *unsurpassed for accuracy!*

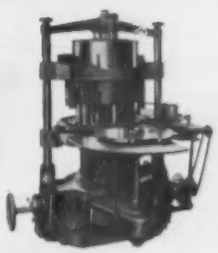
And M&S Fillers lead the field for *versatility,* too: no other fillers can handle as wide a range of liquid, semi-liquid and heavy semi-solid products.

These fillers are engineered for heavy duty and long life. Operating parts are fully enclosed. Drive gears run in oil. All inspection, lubrication, and adjustment points are readily accessible. Non-corrosive metals are used on all contact surfaces. Special "No-Can, No-Fill" feature prevents product waste.

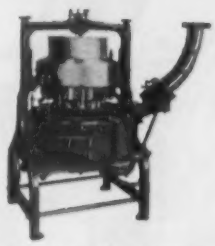
By all comparisons, these are the finest fillers made — designed and built to perform better at lower cost.



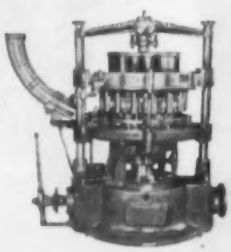
**FMC M & S 6 Pocket Fillers**
Handles virtually any liquid, semi-liquid or semi-solid product. Can be furnished for can sizes from 202 x 102 to 610 x 910. Speed: 150 CPM in small containers.



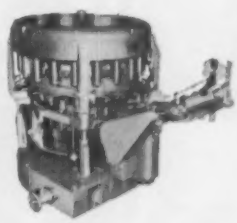
**FMC M & S 9 Pocket Fillers**
For filling pulps, pastes and liquids in containers from 202 x 203 to 404 x 611 size. Speed: up to 150 CPM on light liquids; 250 CPM on heavier products.



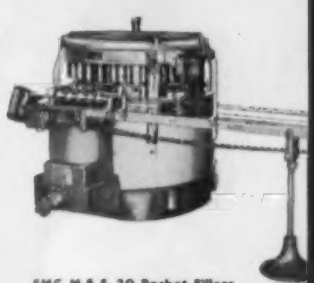
**FMC M & S 10 Pocket Fillers**
Handles a host of products of varying consistencies from condensed milk to heavy dog food for containers ranging in size from 202 x 102 to 404 x 604. Speeds up to 300 CPM.



**FMC M & S 18 Pocket Fillers**
For container sizes up to 211 x 400. Handles citrus concentrates, baby foods and other semi-liquid free flowing products at up to 450 CPM.



**FMC M & S 30 Pocket Fillers**
Delivers up to 500 CPM using jars or cans. Typical products filled are lubricating oil, apple sauce, and chocolate syrup. Handles containers within a range of 202 to 401 diameter.



**FMC M & S 30 Pocket Fillers**
Designed for baby foods and similar products. Handles 5 to 8 ounce jars or cans at speeds of 600 CPM.

There's an M & S Filler for virtually every product, can size, and can line speed

*Write for full information, or call your nearest FMC representative.*

**FOOD MACHINERY AND CHEMICAL CORPORATION**
***Canning Machinery Division***

**General Sales Offices:**

**WESTERN:** SAN JOSE . CALIFORNIA **EASTERN:** HOOPESTON, ILLINOIS

# NATIONAL CAN

PACKAGING FOR . . .

. . . most everything in Mrs. Housewife's cupboard! To list the many products used in the kitchen alone would take several pages—for NC has pioneered — developed and manufactured packaging for a host of products. NC's team of production expert, research chemist, agronomist and merchandising counsel have been of inestimable aid in these projects. A call or wire puts them to work on your problems — no obligation, of course.

NC

## NATIONAL CAN

CORPORATION

*Plants At:* BALTIMORE, MD. • CHICAGO, ILL. • MASPETH, N.Y.
CLEVELAND, OHIO • HAMILTON, OHIO and WARREN, OHIO

*FINE FOODS*

*ARE A MATTER OF*

# *Good taste*

## STANGE CREAM-OF-SPICE SEASONINGS

FOR 50 YEARS
1904-1954

WM. J. STANGE CO., CHICAGO 12, ILL. • OAKLAND 21, CALIF. • CANADA: STANGE-PEMBERTON, LTD., NEW TORONTO, ONT.

J. I. "JIM" SMITH, Esmeralda's president (left), exhibits copy of certificate of land register that deeded land near Circleville to the family in 1807. Certificate was signed by U. S. President Thomas Jefferson and Secretary of State James Madison. Looking on (l. to r.) are: E. L. Tolbert; Robert A. Smith; and Harry A. Styers. Photograph was made March 4, 1954.

# Esmeralda Canning Co. celebrates 50 years of successful operation

## Ohio cannery passes golden anniversary under same name and in the original building at Circleville

BILL SCHAAL, Editor

A HALF-CENTURY of successful operation in the same building and under the same name was celebrated March 4 by the Esmeralda Canning Co., Circleville, Ohio. Today, this company, located in the county seat of fertile Pickaway County, 25 miles south of Columbus, is headed by J. I. "Jim" Smith, well-known in state and national canning affairs. Jim's wife, Jacqueline, is secretary-treasurer and active in the business. E. L. Tolbert, 76 years old and who built the building, is plant manager; Harry A. Styers is plant superintendent; and Robert A. Smith, son of one of the original incorporators, is head field man. Jim's son, J. I. III, is now in the Army and expects to join the management staff when he is discharged.

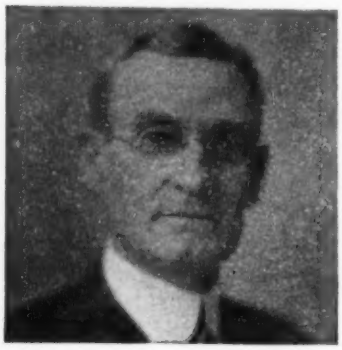
Products packed under a 12-month operation include cream-style corn, both golden and Country Gentleman, asparagus, peas, lima beans, succotash, pumpkin, kidney beans, old-fashioned corn meal mush, and hominy. "Country Colonel" (see photograph) is the principal house label; "Famous" is the other. Esmeralda, considered by the owners as a medium-sized cannery, was one of the first Ohio plants to realize the value of extending its operation to the full year as a means of cutting down overhead and keeping an efficient and well-organized supervisory force working the year around.

The Smith family came to the area and settled there about the time Ohio was admitted to the Union in 1803. The Smiths eventually got into the milling business and operated the Ohio Cereal Co. in Circleville for many years. Their principal product was a flour sold under the trademarked name of "Gem Girl." Because a large amount of business was done in South America, they translated the name "Gem Girl" into Spanish, and the closest Spanish translation was "Esmeralda." The name was coined in the late 1880's and became so popular that it was given to the cannery.

E. L. Tolbert started working for the Smiths in 1899, and his first job was making "cap 'n hole" cans, an incidental enterprise of the Ohio Cereal Co. These cans were sold to the Circleville Canning Co., a company now out of existence. The family incorporated the Esmeralda Canning Co. on March 4, 1904, and two weeks later Mr. Tolbert started putting up the building that the company uses today. That summer the first pack of corn and tomatoes was canned. J. I. Smith Sr., Jim's father, served as vice-president of the company from 1904 through 1910, when he became president. He died in 1936.

Jim Smith is active in local, state, and national industry affairs. He is a past director of the National Canners Association, and became the youngest president of the Ohio Canners Association on his election in 1938. He served as the first president of the Corn Canners Service Bureau. He is a director of the Circleville Pumpkin Show, a 51-year-old national attraction and the only event of its kind. Locally, he is recognized as a civic leader and presently is serving on the Circleville Board of Education.

Esmeralda products are distributed through brokers primarily in the states east of the Mississippi, with some distribution in the western states. The company gives great credit for the sustaining acceptance of Esmeralda products to the famed "Country Colonel" who adorns the main label. The Colonel's body on the label takes the form of corn, peas, limas, pumpkin, or whatever is in the can. This gives rise to a sales statement used effectively by Esmeralda's sales people, "It's the body of the product that counts." Bob Smith, head field man, sketched out the first "Colonel" and the name and figure were copyrighted in 1937.



The late J. I. Smith, Sr.

What about the next 50 years? "We've survived some pretty rough times so far," Jim Smith said, "so I guess we'll be here for another 50 years."

# People and Plants

Everett Ackley

T. F. Baker

G. P. Stedman

B. B. Freitag

L. S. Martin

W. F. May

**Everett Ackley** has been appointed director of research and development and assistant director of quality control of Hines Park Foods, Inc., Ithaca, N. Y.

**Sunkist Growers,** Ontario, Calif., has announced the retirement of **T. Fred Baker,** eastern division manager. Mr. Baker will be succeeded by **Peter T. Wood.**

**Gene P. Stedman** has been appointed assistant secretary of the Tri-State Packers' Assn., Inc., Easton, Md.

**Ball Brothers Co., Inc.,** Muncie, Ind., has announced appointment of **Barney B. Freitag,** as new product manager for glass containers supplied to the food packing industry.

**Crown Cork & Seal Co.,** Baltimore, Md., has promoted **L. S. Martin** to district sales manager of the Baltimore area.

**American Can Co.,** New York, has created a new fibre milk container department, with **William F. May** as general manager. Assistant general managers are **Edward Evans,** in charge of sales promotion; **R. J. Odiorne,** in charge of manufacture, and **G. S. Spence,** in charge of sales.

**Robert D. Lowry,** of Dewey and Almy Chemical Co., Cambridge, Mass., has been appointed to the Research Committee of the Institute of American Poultry Industries.

**Jack L. Ware,** general sales manager, American Excelsior Corp., Chicago, has been named general chairman of the Ninth National Industrial Packaging and Materials Handling Exposition, which will be held in Chicago next September.

**Hunt Foods, Inc.,** Fullerton, Calif., has accepted offers of certain blocks of common stock of the United Can and Glass Co. at $12.00 per share. These blocks, totaling 100,540 shares of stock, combined with United common stock already owned by Hunt, represent an ownership of approximately 59% of the total shares outstanding.

**Albany (Ore.) Ice & Cold Storage Co.** is planning a major expansion program and has named **Kenneth W. Stuart** as manager.

**Fischer-Spiegel, Inc.,** Geneva, Ohio, has become an active member of the New York State Canners and Freezers Assn., Inc. This firm is primarily a processor of grape juice and is part of the Chautauqua, N. Y., the Pennsylvania and Ohio areas along Lake Erie comprising that area's vast grape belt.

The election of **Alexander J. McCarthy** as secretary of National Adhesives Ltd., a subsidiary of National Starch Products Inc., New York, has been announced recently.

**Robert Gair Co., Inc.,** New York, has announced the following appointments at its newly acquired Los Angeles plants: **Otto M. Miller** as general manager of the Angelus Paperbox Co. division, and **Albert E. Bush** as general manager of the Angelus Corrugated Box division. Also announced was the appointment of **Heinz Ahlmeyer** as assistant division manager at Gair Cartons division, Piermont, N. Y.

The plant and equipment of the West Salem Packing Co. have recently been purchased by the Holmen Canning Co., Holmen, Wis.

**C. L. Peterson** has been appointed divisional vice president and **O. B. Wilson** general manager of the Brown Instruments division of Minneapolis-Honeywell Regulator Co., Philadelphia.

**Don R. Callahan** has joined Dudley, Anderson & Yutzy, New York public relations firm, to supervise marketing and merchandising activities.

**Leland R. Tucker** has joined Inglis Frozen Foods Co., Modesto, Calif., as sales coordinator and general assistant to **Roy M. Tucker,** vice-president and director, and **O. A. Cerutti,** traffic manager.

**Robert Gair Co., Inc.,** New York, has bought the two Southern California plants of Angelus Paper Box Co., Los Angeles.

Expansion of facilities to be used by **Driscoll Strawberry Associates** is near completion by the **San Martin Cold Storage Co.,** San Martin, Calif.

**Container Corp. of America,** Chicago, has announced that the building contract for its new corrugated plant at Fernandina Beach, Fla., has been awarded to the S. S. Jacobs Co., Jacksonville, Fla.

**Hugh D. Mason** has joined the southeastern sales staff of Diamond Alkali Co., Cleveland, Ohio.

On the anniversary of his 48th year with Dodge & Olcott, Inc., New York, **Charles O. Homan,** vice president in charge of sales, retired from active service with the company.

**Pennsylvania Salt Manufacturing Co.,** Philadelphia, has announced the consolidation of its personnel and public relations activities under the direction of **Fred C. Abbott,** former manager of personnel and labor relations. The redesignated office will be known as the office of Industrial Relations.

**Raymond H. Dobberfuhl** has been appointed manager of the new R. & J. Dick Co., Inc., Passaic, N. J., office and warehouse for the southern California area.

**Frozen Food Factors, Inc.,** Atlanta, Ga., has appointed Bearden-Thompson-Frankel Advertising Agency to merchandise, advertise and promote the Thrif-T-Pak and Sweet Frost items of frozen fruits, vegetables and concentrate.

**Dodge & Olcott, Inc.,** New York 14, has built a new plant for manufacturing dry soluble seasonings. The company says this is a completely new line of flavors. The new operation is described in the February D&O News.

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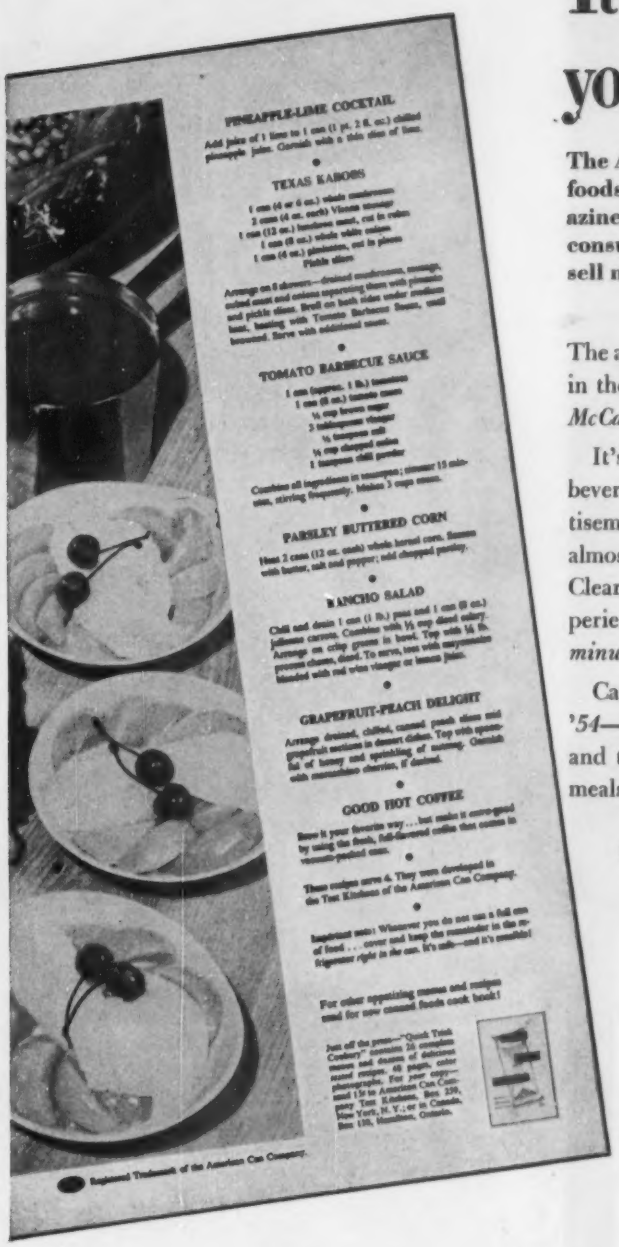
**Carl I. Bloomquist,** 46, chief engineer of Tranter Manufacturing, Inc., Lansing, Mich., died recently.

**Roy R. Rowan,** 73, retired midwestern sales representative for the Frank Hamachek Machine Co., Kewaunee, Wis., died March 9 after a long illness. He is survived by his widow, the former Grace Funderburg.

Wherever you live – enjoy this tempting
TEXAS BARBECUE SUPPER!
it's so easy – with today's extra-delicious canned foods!
You don't have to live in the wide open spaces—you don't even have to have an outdoor grill—to treat your family and friends to this real Texas-style barbecue.
You can fix it superbly, in your own kitchen in minutes . . . because all of the major ingredients come right out of cans!
From the tender chunks of meat to the golden, yellow corn and sun-ripened fruits . . . you'll find them all at your corner grocery —in Canco cans made by the American Can Company.
And like all the foods that come in modern Canco cans, they're more than just convenient. They're packed with downright delicious flavor—and often with more vitamins and nourishment than you get in "fresh-bought" varieties.
This is one of many popular American meals you can prepare more easily, tastily, and economically today because the American Can Company pioneered in the perfection of the modern can for food. Won't you try the recipes? You'll like them!
American Can Company
Containers to help people live better
The American Can Company not only makes the cans that bring you today's foods at their most delicious, nourishing best . . . it also cooperates with growers and packers to help them make certain that the foods that go into these cans are the very finest in the land.
This is the first of a series of full-color advertisements promoting the sales of canned foods and canned beverages and offering the *Quick Trick Cookery* booklet to housewives for 15¢ each. This booklet contains 26 menus and dozens of delicious tested recipes *calling for the use of 227 different canned foods.*



PINEAPPLE-LIME COCKTAIL

Add juice of 1 lime to 1 can (1 pt. 2 fl. oz.) chilled pineapple juice. Garnish with a thin slice of lime.

TEXAS KABOBS

1 can (4 or 6 oz.) whole mushrooms
2 cans (4 oz. each) Vienna sausage
1 can (12 oz.) boneless meat, cut in cubes
1 can (8 oz.) whole white onions
1 can (4 oz.) pimientos, cut in pieces
Pickle slices

Arrange on 8 skewers—drained mushrooms, sausage, cubed meat and onions, spearing them with pimiento and pickle slices. Broil on both sides under medium heat, basting with Tomato Barbecue Sauce, until browned. Serve with additional sauce.

TOMATO BARBECUE SAUCE

1 can (approx. 1 lb.) tomatoes
1 can (8 oz.) tomato sauce
½ cup brown sugar
2 tablespoons vinegar
½ teaspoon salt
½ cup chopped onion
1 teaspoon chili powder

Combine all ingredients in saucepan; simmer 15 minutes, stirring frequently. Makes 3 cups sauce.

PARSLEY BUTTERED CORN

Heat 2 cans (12 oz. each) whole kernel corn. Season with butter, salt and pepper; add chopped parsley.

RANCHO SALAD

Chill and drain 1 can (1 lb.) peas and 1 can (8 oz.) julienne carrots. Combine with ½ cup diced celery. Arrange on crisp greens in bowl. Top with ¼ lb. process cheese, diced. To serve, toss with mayonnaise blended with red wine vinegar or lemon juice.

GRAPEFRUIT-PEACH DELIGHT

Arrange drained, chilled, canned peach slices and grapefruit sections in dessert dishes. Top with spoonful of honey and sprinkling of nutmeg. Garnish with maraschino cherries, if desired.

GOOD HOT COFFEE

Brew it your favorite way . . . but make it extra-good by using the fresh, full-flavored coffee that comes in vacuum-packed cans.

These recipes serve 4. They were developed in the Test Kitchens of the American Can Company.

Important note: Whenever you do not use a full can of food . . . cover and keep the remainder in the refrigerator right in the can. It's safe—and it's sensible!

For other appetizing menus and recipes send for new canned foods cook book!

Just off the press—"Quick Trick Cookery" contains 36 complete menus and dozens of delicious meal recipes. 48 pages, color photographs. For your copy, send 15¢ to American Can Company Test Kitchens, Box 220, New York, N. Y.; or in Canada, Box 130, Hamilton, Ontario.

Registered Trademark of the American Can Company.

# It's designed to help you sell more in '54!

**The American Can Company is now advertising canned foods and beverages for you in national consumer magazines. This spectacular program reaching 47,700,000 consumers about once every three weeks will help you sell more in '54. Cash in on it!**

The advertisement at the left appears in beautiful full color in the April 19th issue of LIFE and in the May issues of *McCall's* and *Good Housekeeping*.

It's a Canco ad—but its aim is to sell canned foods and beverages. Like the others which will follow it, this advertisement features a complete regional meal prepared almost entirely from canned foods and canned beverages. Clear, easy-to-follow recipes invite even the most inexperienced homemaker to prepare the various dishes *in minutes*.

Canco will stimulate your sales—*help you sell more in '54*—by increasing public appreciation for canned foods and the modern container which makes such wonderful meals and beverages available to everyone *quickly and easily*.

***Containers to help people live better***

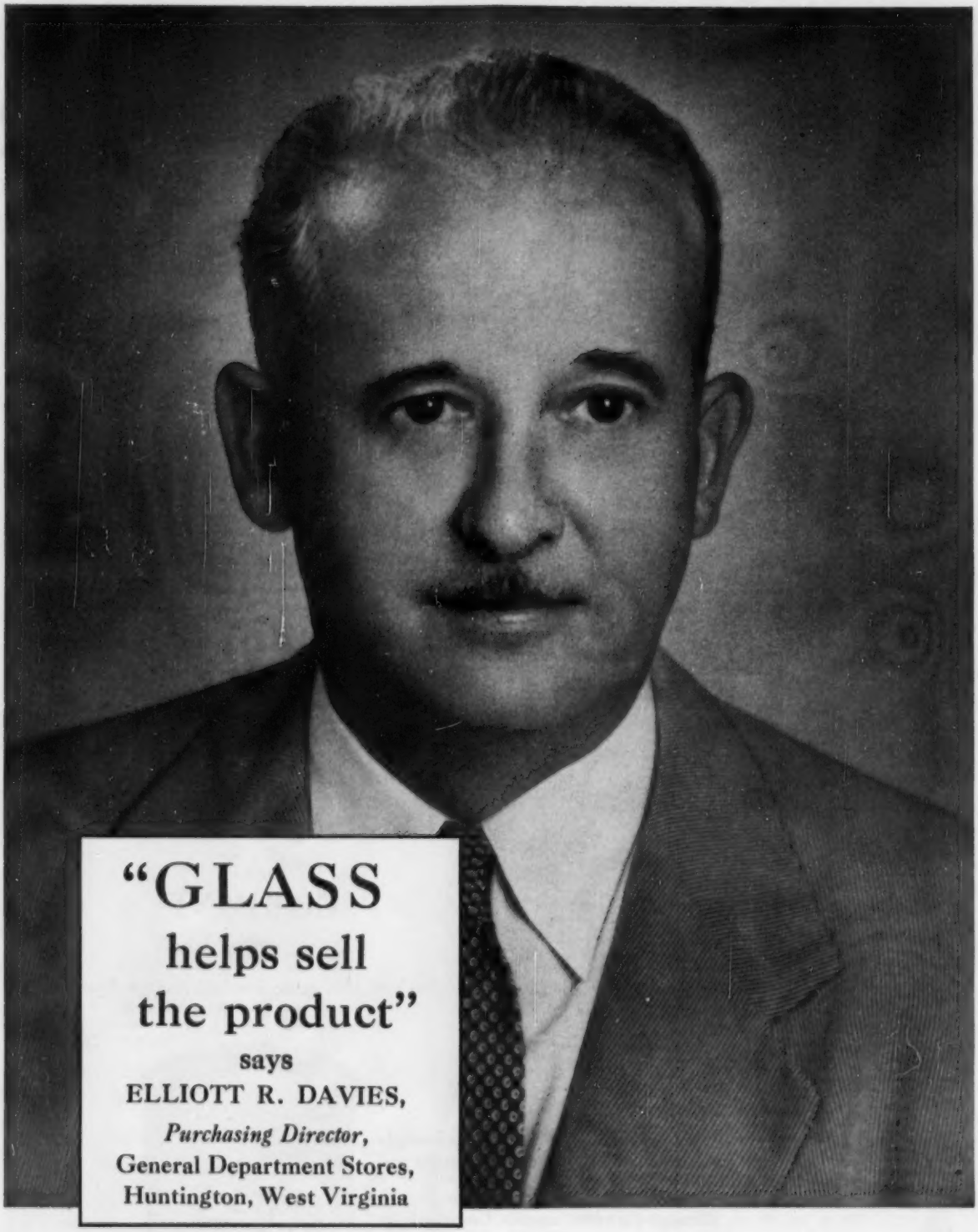
**AMERICAN CAN COMPANY**

CANCO

New York, Chicago, San Francisco; Hamilton, Canada

*The modern food can*—perfected by Canco—made commercial canning of fruits and vegetables possible.

Through the years, constant Canco pioneering and cooperation with the canning industry have brought forth widespread process and product improvement—opening new markets for canned foods of all kinds.



# "GLASS helps sell the product"

says

ELLIOTT R. DAVIES,

*Purchasing Director,*

General Department Stores,

Huntington, West Virginia

"It seems to us that practically all of the foods we have in glass are very appealing to our trade; further, glass is a definite asset in displaying merchandise, and an advantage to the shopper in actually letting her see what she is buying. As new appetite-appealing products become available in glass, the test of time invariably indicates that *glass helps to sell the product.* We believe additional vegetable and fruit items in glass would have a sales-stimulating influence on this important food store commodity classification."

Glass is the perfect self-selling package. Its color and sparkle attract . . . its honesty convinces.

A glass package is convenient to use. Housewives like the visible inventory they get with glass, and the safe, convenient way foods in glass can be stored.

This attractive glass decanter is available in 8-oz., 12-oz., 16-oz., quart and half-gallon sizes.

## Today's self-service selling demands a self-selling package . . . *GLASS!*

That's why so many foods are now packed in glass. Table syrup, for example, is now sold almost entirely in glass, because the glass package is an attractive easy-to-use *table* package.

There's no better way to sell a product than to let it sell itself through visual display. Products in glass today are geared to self-selling. The cartons are easy to handle, easy to cut for display.

So remember . . . today's self-service selling demands a self-selling package . . . GLASS . . . for fast turnover!

DURAGLAS CONTAINERS
AN (I) PRODUCT

OWENS-ILLINOIS
GENERAL OFFICES • TOLEDO 1, OHIO

## let's talk Citric!

## orders...small, medium, large

## dispatched promptly!

# PFIZER CITRIC ACID

● It may be your requirements for citric run into carload quantities. Or, if you use citric only occasionally, they may be small. Whatever your needs are, there's a type and a container size ready to be dispatched post-haste to your plant.

Pfizer Citric Acid U.S.P. Anhydrous... "with the water squeezed out"...comes in these mesh sizes: granular, fine granular, powder. Packed in 25, 50, 100, 225, 250 lb. drums, and 100 lb. bags (5 bag min.).

Pfizer Citric Acid U.S.P. Hydrous is available in these mesh sizes: granular, fine granular, fine granular xx (for confectionery use), powder. Packaged in 25, 50, 100, 200 and 220 lb. drums.

If your demands are small, medium or large . . . order Citric from Pfizer today!

**CHAS. PFIZER & CO., INC.**

630 Flushing Ave., Brooklyn 6, N. Y.
Branch Offices: Chicago, Ill.; San Francisco, Calif.; Vernon, Calif.; Atlanta, Ga.

*Manufacturing Chemists for Over 100 Years* **Pfizer**

# MANY Styles AND Sizes

## ...BUT ALL ANCHORGLASS CONTAINERS HAVE THE SAME QUALITIES

THEY are uniformly strong, tough, dependable lightweight glass containers—high in chemical durability, accurate in dimensions, capacity and finish. They are designed to withstand the knocks of modern high speed production lines, handling and transportation.

Anchorglass containers are the result of practical engineered designs, careful selection and control of raw materials, uniform distribution of glass, precise temperature control in annealing and thorough quality control through laboratory tests and regular inspections.

If you package or contemplate packaging in glass let us send you sample containers with suitable closures for your particular needs. The services of our Package Engineering and Research Laboratories are also available to help you solve glass packaging problems.

**Anchorglass® Plain Round Jars** are available in 32 sizes ranging from 2 ounces to 1 gallon. They are ideal, economical, all-purpose containers for solid and semi-solid food products.

# ANCHOR HOCKING

GLASS CORPORATION
LANCASTER, OHIO

★

*The Most Famous Name in Glass*

# Washington and You

Robert Y. Kerr, Washington Editor

## Freezers are optimistic; expect biggest year yet in 1954

### NAFFP research project progressing nicely; nearly 50 products are being analyzed for vitamins & minerals

THE FROZEN FOOD INDUSTRY continues to bubble with the market confidence that was so visible at the big convention, a few weeks ago.

Packers and distributors say they expect a sales increase this year of 10 or 15 percent; and they're prepared not to be surprised by still larger gains. No more than six years ago the industry would have been feeling pretty good over taking three percent of a Florida orange crop the size that's showing up this year. But as of now it's been processing 54 percent of the current 86 million boxes.

It seems that nobody can count fast enough to be sure; but the educated guess is that upwards of a quarter-million stores have cold cabinets for the display of frozen food lines. These stores report that about five percent of their total sales are made from these cabinets. The percentage varies rather widely from store to store; depending, it seems, upon the skill shown in display and handling. This fact convinces the industry that a bigger market is waiting for development; that methods already known can do the business. Conservative operators expect this five percent of sales to be doubled, maybe this year; and the optimists, without setting exact dates, think it'll not be so long until the present figure is multiplied by four or five.

#### "Convenience" foods

Some newer products are catching on fast and are helping speed up the sales of other frozen lines. You know how it is. A customer finds himself enchanted by a new discovery. How long, he says to himself, has this been going on? And so he experiments with other products in the cabinet that he may have noticed vaguely but never before has tried. Among these newer items are the "convenience" foods; fixed up ready for a brief tour in the oven and for a quick transfer to the table as a complete dinner. While no customer has exclusive rights to these convenience foods, it's an easy guess that they find especially devoted buyers among the girls who work in offices. After a day at a typewriter, a young lady is in no mood to follow grandmother's slow routine of "getting dinner ready." They do say, too, that a good many afternoon bridge addicts, whom a neighbor of ours used to describe as "native women at work in the fields," find these convenience items to be protective devices. Getting home with low score about ten minutes ahead of a feed-the-brute helpmeet is always a crisis: but it's one the new products can soften and perhaps even solve. These are not the only natural uses; but they may suggest the general idea.

#### Prices lower

The frozen-food people like to mention the Bureau of Labor statistics, compiled for the period from 1950 when Korea got off the reservation to January of this year. During that period, frozen fruits and juices declined in price by 12.1 percent; and frozen vegetables backed off by 18 percent.

These things recall the big scientific project now being carried forward by the National Association of Frozen Food Packers: the Nutrition Research Program on Frozen Fruits, Juices and Vegetables. This five-year study is now well started in its second year.

Lawrence S. Martin, of the N. A. F. F. P., says the first year's work has confirmed the original belief that this research can answer the many questions the public needs to have answered about the effect of deep freezing on the nutritional values and the vitamin content of foods. Those professionally interested are physicians and associated specialists; dietitians, geriatricians, pediatricians and the like. Not many people think of food as medicine; and probably the dictionaries wouldn't want to call it medicine. But plenty of doctors have found it possible to correct physical difficulties and to promote physical comfort and efficiency by managing diets. These physicians have a knowledge of *materia medica* and know what kind of a result they'll get by giving a dose say, of ipicac. But they haven't known too much, in a scientifically measurable way, about the chemical contents of foods and their less violent but not less important effects; either on a person who is sick, or on a person who is well and wants to stay that way. And much of the so-called popular knowledge has little basis in fact.

#### Tests now underway

So here we have this big program. The scientific work is being done, as was mentioned on this page before, by the Wisconsin Alumni Research Foundation. Tests are now under way to determine the occurrence of eight vitamins, six minerals, and seven proximate components in commercial samples of 49 frozen fruits, vegetables, and juices. The 49th has been added recently; crookneck summer squash. About 10,000 nutritional tests are to be completed this year. The samples come from 150 freezing plants throughout the country. These tests will include measurements for the occurrence of amino acids—the basic constituents of proteins—in nine frozen vegetables; also studies to determine the retention of certain vitamins and minerals, in chosen groups of vegetables, during the process of cooking.

There are two practical purposes in these studies. The first is to tell physicians and dietitians and also Aunt Carrie and her associated kitchen applied scientists what is in these frozen and later cooked products and how to prepare them so that these food factors will be available in known and determined quantities. The second of course is to develop processing methods by which food plants can retain and make available these nutritional values, also in known quantities. Mr. Martin and H. P. Schmitt of the Research and Standards Department are certain that this project will develop by far the fullest and most usable collection of nutritional information ever prepared in the frozen-food field.

*(Continued on page 62)*

**DESIGN MAKES THE DIFFERENCE**

# *Easy ways to make your container look larger*

**Usually,** the bigger a package looks, the better it sells. Here, for example, are a few simple ways you can make your package look larger without actually increasing its capacity. Often, the same design changes that make a package look larger can also make it lighter or help iron out a production problem.

One of these sketches may suggest a way to give your package a bigger appearance. If not, there are many other ways it can be done. Our designers will gladly study your package and recommend the best solution for your particular product.

For details, call your near-by Armstrong office or write direct to Armstrong Cork Company, Glass and Closure Division, 5404 Cherry Street, Lancaster, Pa.

**ARMSTRONG'S GLASS CONTAINERS**

## We'll be more than pleased to tailor our package service to your order

Naturally you want well-made containers that move through your packing lines with unerring accuracy. And you want deliveries right on the nose. These are basic features of Continental's Tailor-Made Package Service, and every one of our customers gets them. However, equally important are the engineering and research helps we make available—especially adapted to your individual needs. Why not give us a chance to work with you? We'll do our best to make your packaging problems a thing of the past!

**CONTINENTAL CAN COMPANY**

*Continental Can Building, 100 East 42nd Street, New York 17, N. Y.*

**Eastern Division:** 100 E. 42nd St., New York 17
**Central Division:** 135 So. La Salle St., Chicago 3 **Pacific Division:** Russ Building, San Francisco 4

APRIL, 1954

# Food Packer

VOL. 35, No. 4

CANNING • GLASSPACKING • FREEZING

## BETWEEN THE LINES

OFFICERS AND PRINCIPAL SPEAKERS, annual convention of Ozark Canners Association, held Feb. 18 and 19, Springfield, Mo. Officers, seated, l. to r.: Larry DeWese, Steele Canning Co., Springdale Ark., retiring president; A. D. Lewis, Fayetteville, Ark., secretary-treasurer; and J. J. Diehl Jr., Hyde Park Canning Co., Muskogee, Okla., newly elected president. Speakers, standing l. to r.: Dr. H L. Stier, National Canners Association; Dr. Clyde Cunningham, horticulturist, Univ. of Mo.; L. M. Levin, Food & Drug Consultants of St. Louis, St. Louis; Ben F. McDonald, Springfield Grocer Co., Springfield, Mo.; and Mike Meyer, City National Bank, Fort Smith, Ark.; C. L. Todd, vice-president, Stilwell Canning Co., Stilwell, Okla., is not shown.

### Brockway opens new general offices

More than 4,000 visitors participated in the Brockway Glass Co.'s "open house" recently when the company observed the formal opening of its new general office in Brockway, Pa.

Built at a cost of $300,000, the new office was occupied in October 1953, and now contains departments of the company which were formerly located in two separate buildings. The new building covers 24,269 square feet and contains 50 offices and rooms. It is completely modern, with recessed ceiling lighting, acoustatile ceilings, air-conditioning, and generous use of glass, both structurally and decoratively.

### Ohio tomato grade reports available

In his quality-control column in the March FOOD PACKER, W. A. Gould discussed the recently released report (third in a series) published by the Ohio Agricultural Experiment Station on the study of the relationship of various grades of raw tomatoes and canned tomato juice. Copy of this report, titled, "A study of the relationship of various grades of fresh and canned vegetables, Part II: Canned tomato juice," is available from FOOD PACKER, 139 N. Clark St., Chicago 2. The other two reports, discussed by Gould in previous issues of FOOD PACKER, are also available without charge from the same address. Ask for "A study of the relationship of the various grades of fresh and canned vegetables, Part I: Canned tomatoes;" or "A study of the relationship of the various grades of fresh and canned vegetables, Part III: Canned tomato pulp (puree)."

### New Canadian officers

The Canadian Food Processors Association elected the following officers recently: President, F. T. Sherk, H. J. Heinz Co. of Canada, Ltd., Leamington, Ont.; first vice-president, Ray R. Furlong, Burns & Co., Ltd., Calgary, Alta.; second vice-president, Jean Raymond, Alphonse Raymond Ltd., Montreal; manager (re-elected), P. R. Robinson, Ottawa.

ALBERT E. HEEKIN, JR., new president of the Heekin Can Co., Cincinnati.

DANIEL M. HEEKIN, retiring president.

### Daniel M. Heekin retires from Heekin Can Co.; Albert E. Heekin Jr. is elected president of firm

Albert E. Heekin, Jr., grandson of the founder of the Heekin Can Co., with headquarters in Cincinnati, was elected president of the company at the annual meeting on March 16. Daniel M. Heekin (FOOD PACKER's Man-of-the-month, April 1953 issue),

DELAWARE'S GOV. J. CALEB BOGGS (second from right) congratulates F. W. Hass, Middletown, as 1st prize winner in State's Ten-Ton Tomato Club, at Delaware Farm & Home Week. Left is H. W. Torbert, Magnolia, second prize winner. Stanley Rolle, Dover, third prize winner, is at right. Three growers produced crops averaging more than 21 tons per acre by using advanced fertilizer and cultivation practices combined with a Rhothane-Dithane organic spray program.

ASSOCIATED INDEPENDENT CANNERS officials look over promotional material in national canned peas campaign. Co-sponsored by CMI, big sales campaign will last six weeks, is aimed at more than 60 million consumers. (L. to r.) are: Kenneth Reuhl, Pardeeville Canning Co., Pardeeville, Wis.; J. P. Kraemer, Mammoth Spring Canning Co., Sussex, Wis., and AIC secretary-treasurer; and Graydon E. Jones, Columbia Canning Co., Columbia, Wis. All industry is supporting campaign.

one of the best-known men in the canning industry, has retired as president of the company.

Albert Heekin, Jr. the fifth Heekin to become president, entered into the management of the can company via a background of legal training. Born in 1914, he received his A. B. degree from Cornell University in 1936 and his L.L.B. degree from Fordham Law School in New York in 1939. He practiced law in New York for five years, returning to Cincinnati to form the law firm of Kyte, Conlan, Heekin, and Wulsin. While closely associated with the management and policy of the Heekin Can Co., he did not associate himself entirely with the company until January 1, 1950, when he became assistant to the president.

Active in industrial and commercial affairs, he is a director and secretary of the Cincinnati Industrial Institute, a member of the board of trustees of the Cincinnati Better Business Bureau, a member of the Queen City Association, and the Society for the Advancement of Management.

Married and father of two sons, Mr. Heekin is a member of the board of directors of the Can Manufacturers Institute, the Jackson Box Co., the Drackett Co., as well as the Heekin Can Co.

Other officers elected at the March 16 meeting were: James J. Heekin, chairman of the board; Albert E. Heekin, chairman of the board emeritus; Clarence A. Rolfes, vice-president and sales manager; James J. Flynn, secretary-treasurer; Charles L. Heekin, vice-president, packers' can sales; and Donald J. Heekin, vice-president, defense sales.

## New Illinois officers

The 1954 officers for the Illinois Canners Association as elected at the Association's recent meeting are: President, R. E. Snively, Illinois Canning Co.: vice-president, Vernon Otto, Rock Valley Canning Co.: and secretary-treasurer (re-elected) W. D. Jones, Streator, Ill. Directors are: W. R. Benner (retiring president), Streator Canning Co.; Armand Bonvallet, P. A. Bonvallet's Sons, Inc.; James Countryman, Pec Canning Corp.; L. A. Koritz, California Packing Corp.; R. E. Snively; H. W. Souther, Libby, McNeill & Libby; and G. S. Suppiger Jr., G. S. Suppiger Co.

Robert B. Magnus (right), vice-president of MM&R, and his son, Robert B. Magnus Jr. conducted the MM&R domestic and foreign sales representatives on a tour of inspection of the company laboratories and offices during the annual sales conference, Feb. 10-13.

## Magnus predicts steady advance in 1954

Percy C. Magnus, president of Magnus, Mabee & Reynard, Inc., New York, predicted a steady advance in the company's international business in 1954 at its 23rd annual sales conference in New York, Feb. 10-13. "As the present year matures," Mr. Magnus said, "business will be as good or as bad as we make it. There is no reason why with careful planning and follow-through, American industry and business cannot duplicate the peak performance of 1953 and perhaps surpass it." Further expressions of optimism were added by J. R. Magnus and R. B. Magnus, vice-presidents. Scientific and sales personnel discussed the streamlining of the company's efficient service to approximately 70 diversified industries in many parts of the world. A. H. Downey, technical director and chairman of the conference, referred to improvements in the scientific control of raw-material and manufacturing procedures.

## Northwest canners hold sanitation and industry carloading conferences

Three conferences devoted to reviewing correct sanitation procedures and the explaining of new sanitation techniques and materials were held in March by the Northwest Canners Association, according to C. R. Tulley, executive vice-president of the association. The conferences were held in Salem, Oregon, March 15; Seattle, March 17; and Walla Walla, March 22. Ed Doyle, sanitarian, and Walt Mercer, sanitation specialist, both from the Western Branch Research Laboratories of the National Canners Association, Berkeley, Calif., were the main speakers at the conferences.

Also, a series of three canning industry carloading clinics was held under the sponsorship of the North-

west Canners Association. Locations and dates were: Salem, March 15; Seattle, March 19; and Walla Walla, March 23. Primary speakers were E. J. Kraska, canned foods specialist of the Association of American Railroads, Chicago, and C. A. Gregory, container engineer, Union Pacific Railroad, Omaha. The programs featured both lecture and "on the job" demonstration sessions. Local representatives of railroads serving the Northwest participated in the clinics.

## CMI launches new safety campaign

The 1954 safety campaign, designed to prevent accidents in the nation's can manufacturing industry, is being launched by the Can Manufacturers Institute, announces John Dingee, Crown Can Div. of Crown Cork & Seal Co., Inc., and chairman of CMI's hygiene and safety committee. CMI's safety program, initiated last year, seeks to help in maintaining the high safety rating of a large group of can companies and bring to the entire industry the same standards of excellence, Dingee said.

The Institute is releasing a series of six safety posters that feature the word "Think" and that dramatize in illustrations how various types of accidents in factories can be prevented. Also announced were plans for creating another series of posters utilizing comic characters, similar to the type used so successfully during World War II by armed forces in training programs. In addition, an industry-wide safety contest for plants, safety exhibits, and other technical and inspirational materials will be used to intensify the 1954 program.

John Holmes (right), president of Swift & Co., Chicago, presents 50-year service pin to Maurice Strenitz, who started to work at 14.

## Swift man celebrates 50 years with company

Maurice Strenitz of Chicago realized an ambition of long standing recently when he had his 50th anniversary as an employee of Swift & Co. Starting as a company messenger when he was 14 years old, Strenitz was promoted after a few months to an office boy in the glue and adhesive products division. He has been with this division of the Swift business throughout his entire career and presently is Chicago plant district sales manager of the division.

CANNED FOODS PROMOTION PLANNERS plan what promises to be the biggest year of canned-food promotion in history. Shown (l. to r.) are: Carlos Campbell, National Canners Association; H. N. Stevens, Campbell Soup Co. and NCA representative; K. F. Boucher, Dole Sales Co. & NCA representative; Delbert Johnson, Continental Can Co.; P. P. Wojtul, Continental Can Co. and CMI representative; J. B. Weix, Oconomowoc Canning Co. and NCA representative; H. H. Jaeger, CMI marketing bureau director; F. G. Jewett, American Can; and Nelson Budd, National Canners.

## Canned-food leaders plan year's promotion

A definition of the areas of canned food promotion and a plan for overall coordination of the programs of major industry groups was the result of a recent meeting of the Consumer and Trade Relations Committee of the National Canners Association with members of the Can Manufacturers Institute's Marketing Bureau and representatives of American and Continental Can Companies.

K. F. Boucher, advertising manager, Dole Sales Co., chairman of NCA's Subcommittee on Consumer and Trade Relations, pointed out that the new NCA program will cover canned foods as a whole and will include no advertising. NCA's activity is designed to create the right climate for selling canned foods, on a broad general basis, acting as an umbrella under which the commodity promotions and advertising programs of CMI, American Can and others can operate with extra effectiveness.

P. P. Wojtul, vice-pres. of Continental Can Co. and chairman of CMI's marketing advisory board, and Harold H. Jaeger, CMI marketing bureau director, announced plans for the most active year in CMI history, with the program concentrated as in the past on promotions on a commodity-by-commodity basis.

More interest than ever is being shown by commodity groups and state canner associations in the activities sponsored by CMI. In addition, CMI now offers expanded facilities for publicity and merchandising support and increased partnership of the steel industry in consumer advertising.

## New NFBA members

The following food broker firms are new members of the National Food Brokers Association, NFBA announces: Marvin G. Spahr Bkge Co., 802 Peoples Bank Bldg., Canton 2, Ohio; McKinney Brokerage Co., 4030 Chouteau Ave., St. Louis 10; W. E. Gray Co., 210 Yarmouth St., Norfolk, Va.; M. B. McGee Bkge Co., 502 McCall Bldg., Memphis; Mid-West Sales Agency, Inc., 909 Underwriters Bldg., Indianapolis 4; Hubert L. Massar Sales, 2422 Third St., Cuyahoga Falls, O.; Dahlberg-Ory Sales, Inc., 117½ E. Amite St., Jackson, Miss.; McCorkle & Co., 916 Fifth Ave., Huntington, W. Va.; E. C. Roxbury, 512 Blackstone Bldg., Tyler, Texas; Rodman-Hornburg Co., 2d Unit Santa Fe Bldg., Dallas 2, Texas; Walter Nahm Co. P. O. Box 111, El Paso, Texas; Ramsay & Gray, PO Box 6002, Houston 6; Burget & Holzenkamp, 5 W. 10th St., Indianapolis 6; and Francis X. O'Hare & Co., 252 Asylum St. Hartford, Conn.

FIG. 1—Here's the type of freight car that hauls sugar from the refinery to the Madison plant. Fill openings in the top of the car are hermetically sealed while the car is enroute from refinery to plant.

# Improved sanitation, saving of labor, and less wastage are advantages of Madison's bulk-sugar installation

## Automatic set-up unloads sugar from cars, conveys it in and out of plant storage bins, and delivers it to processing tanks

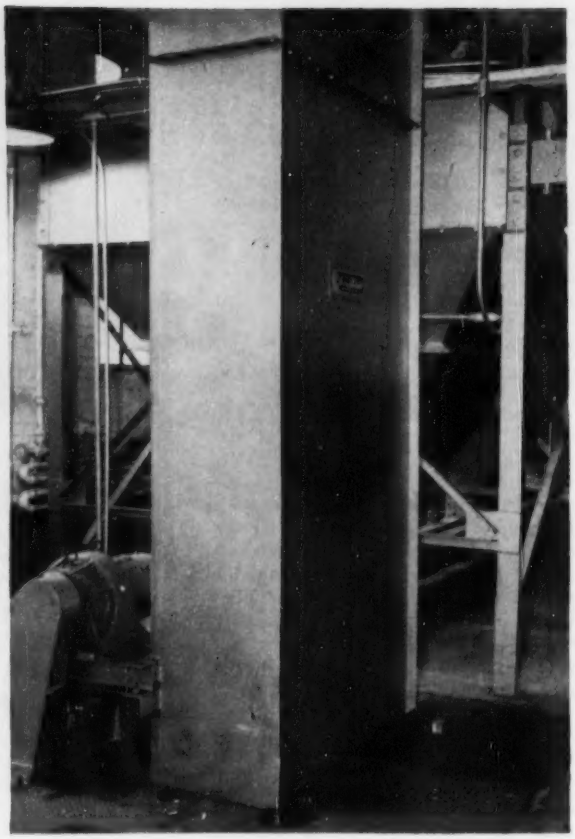


FIG. 2—Enclosed screw conveyor (beneath floor, not shown) brings the sugar into the plant. This enclosed vertical bucket elevator elevates it to ceiling height, then a horizonal screw conveyor delivers it to storage bins. When sugar is needed in plant, this elevator delivers it to the screw conveyor that extends to distant processing rooms.

A BULK SUGAR-HANDLING INSTALLATION is proving of great value to the H. W. Madison Company, well-known pickle packer and mayonnaise manufacturer at Medina, Ohio (see FOOD PACKER'S cover article, September 1953 issue).

Formerly, Madison's sugar arrived at the plant in 100-pound bags. It was normal for dust and dirt to be on the exterior surface of the bags, and frequently there were pieces of paper found inside. Regardless of the precautions taken, it was practically impossible to prevent some foreign material from entering the finished products. Also in the handling of bag sugar, there was some breakage, resulting in wastage.

Now, under the new system, sugar arrives at the plant in smoothly finished, plywood-lined, hermetically sealed freight cars. The sugar is unloaded, stored, and incorporated into high-quality Dolly Madison products automatically.

The installation was designed and built cooperatively by Madison's engineers, the J. C. Corrigan Co., Inc., Boston materials-handling specialists, and the Revere Sugar Refinery, the sugar supplier.

Bulk granulated sugar arrives at the plant in a car (Fig. 1) that resembles a standard railroad hopper car, capacity 80,000 pounds. At the refinery, controlled sugar is filled through top openings that are hermetically sealed when the car is full. Specially designed unloading outlets in the bottom of the car make possible direct transfer from the car to storage bins inside the plant. This entire operation from car to product is fully enclosed, thus assuring the utmost in sanitation.

To unload a car at the Madison plant (the car is emptied in only 2½ hours), the bottom portholes are opened, permitting the sugar to flow into a screw conveyor which takes it into the plant. There it enters a vertical bucket elevator (Fig. 2). This elevator carries the sugar to near-ceiling height where it enters another screw conveyor that carries the sugar horizontally along the top of the seven storage bins (Fig. 3). These bins have a total capacity of 120,000 pounds. A gate arrangement in this horizontal conveyor allows the sugar to fall into any of the seven storage bins.

When there's a need for sugar in the plant, the bottom gate on any one of the bins is opened, and the sugar falls into another screw conveyor (Fig. 3) that extends horizontally along the floor directly beneath the storage tanks. This conveyor takes the sugar back to the same vertical bucket elevator (Fig. 2) that originally delivered incoming sugar. The bucket elevator lifts the sugar vertically to a chain-controlled transfer point.

**Cover picture**

**Close-up of the control panel of the Richardson scale unit. George Madison, vice-president of the Madison Co., shows how easy it is to set the dial to deliver the number of pounds required for processing pickles.**

By switching the gate at this point, the sugar is channeled into the 130-foot-long overhead screw conveyor (Fig. 4) that extends across the main packaging room at the Madison plant, through the wall, and into the "sugar station" (Fig. 5) in the sweetening

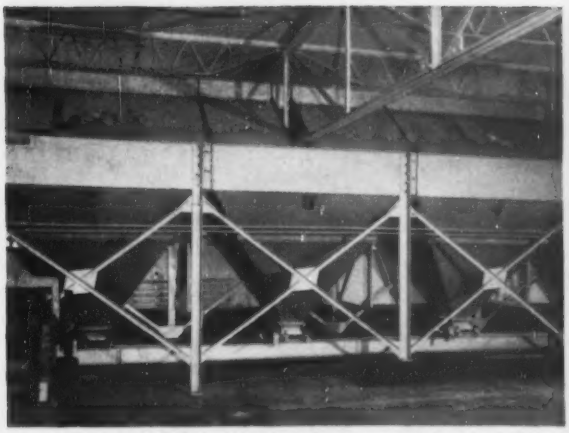


FIG. 3.—Part of the seven permanent sugar storage bins in the Madison plant. The screw conveyor visible along the floor removes sugar from the bins and returns it to vertical elevator that elevates the sugar to long overhead screw conveyor for distribution in the plant.

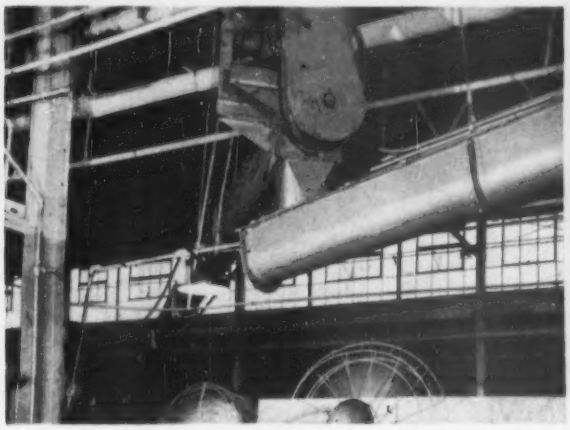


FIG. 4.—The 130-foot-long horizontal screw conveyor changes directions in the Madison plant. Conveyor (left) comes from permanent storage bins. Conveyor (right) continues on to main processing rooms.

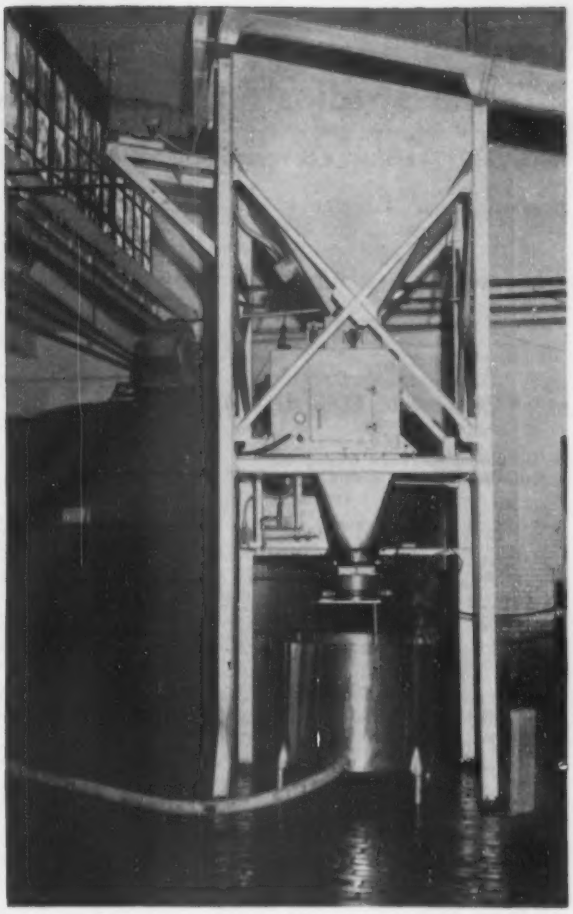


FIG. 5.—Conveyor discharges sugar into this surge hopper (top). Scale unit shown in center of structure delivers specified amount of sugar into the portable dissolving tank beneath unit. Hoses circulate dissolved sugar in liquor to big pickle processing tank (left rear).

room. This station consists of an overhead surge hopper, beneath which is located a (Model E-50 Richardson Scale Co.) bulk-type scale. An additional overhead screw conveyor extends farther into the adjacent main processing room where a similar hopper-scale unit is located.

### Scale is automatic

The purpose of this scale unit is to automatically measure the desired number of pounds of sugar needed for processing pickles and to deliver it into a portable process tank (Fig. 5) resting on the floor beneath the unit. The quantity of sugar needed is set on the dial of the scale control panel, the unit is activated by pushing a button, and from then on the operation is completely automatic. A stop-counter in the scale controls the number of discharges (each discharge delivers a set number of pounds of sugar) that the machine makes into the dissolving tank beneath the unit.

As the sugar flows into the tank, it is immediately dissolved in rapidly circulating liquor. This liquor continually circulates through heavy rubber hose connected between the portable tank and the big processing tank that contains the pickles. A powered agitator keeps in violent motion the liquor solution as the sugar is discharged into it. By first simply calculating the number of pounds of sugar required to bring a specified amount of pickles up to the desired Baume level, and then by setting this figure on the scale control panel, this amount of sugar is taken into the processing tank that contains the pickles—automatically and completely unattended. These connecting hoses are long enough that tanks over a wide area can be serviced.

When the sugar level in the overhead surge hopper falls below a certain point, an automatic switch activates the screw conveyors that lead back through the factory to the main storage bins, and more sugar is conveyed into the hopper and delivered to the overhead surge hopper.

One of the two scale units is equipped with a bagging device for filling bags. By setting the dial on the scale control panel, a certain number of pounds of sugar will automatically discharge into the bag. The mechanism is tripped when the bag is locked into place on the bagging device.

This installation will save the company a considerable amount of money in labor costs and sugar wastage. Also, it eliminates handling bags within the plant.

The Madison company, noted for its aggressive attitude toward new developments that make the complicated job of packing high-quality food products easier, considers the new bulk-sugar installation a major, long-time improvement in its production facilities.

# Further studies on freezing new California strawberry varieties

This study gives summary of data obtained on freezing varieties as grown in the north coastal areas

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and
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In an earlier report (Hohl, [7]) it was pointed out that there is a growing interest in freezing strawberries in California. Labor shortage during the war caused a marked decrease in California strawberry acreage, but since then plantings have steadily increased until they are now about half the pre-war level. Northern California is catching up with its pre-war acreage more quickly than Southern California. Production per acre has increased markedly. Frozen strawberries have accounted for about one-fourth to one-third of the total frozen fruit produced in this state during the last few years. Table 1 shows that, despite fluctuations, the general trend in production and freezing of strawberries is definitely upward.

The varietal situation continues to shift. The old standard variety, Banner, (known as Marshall in the Northwest), has been gradually replaced by new varieties which the University and private growers and breeders have produced. The new varieties possess (as the Banner lacks) resistance to the strawberry yellows or xanthosis, a serious virus disease. Resistance to other diseases varies with the variety. (See Baker and Voth [2]). Thomas and Goldsmith (16) described their five new varieties, Donner, Lassen, Shasta, Sierra, and Tahoe, which have been extensively tested in the field. From the grower's viewpoint, the Lassen and Shasta have been found best in the Central and North Coast areas. Banner is so seldom planted now that it was almost impossible to obtain for the experiments in the 1949 season. Plantings of Tahoe, Donner and Sierra are dropping off, too. Some new strains and varieties produced by private growers and breeders have also been subjected to field tests and found to be superior for commercial freezing. (See Josyln and Hohl, [8]). Baker and Voth (2) published a complete report of the results of field tests on the five new varieties offered by Thomas and Goldsmith (16), and have suggested two new selections, Campbell and Cupertino, for field trial. There has been no opportunity as yet to test the latter for adaptability to freezing.

This paper is presented to give a summary of data obtained on the adaptability to freezing of the five Thomas and Goldsmith (16) varieties and the Banner as grown in the North Coastal areas. Some of the chemical characteristics of these varieties were also studied. The work has been too limited to attempt correlation between freezing quality and chemical composition of the fruits. It is interesting to note, however, that Robinson, *et al.* (13) were unable to demonstrate any such correlation for their New York grown strawberries.

The procedures followed in preparing the samples for freezing were approximately as follows:

The fruit was harvested without removing the hulls (a procedure which differs from the most common commercial practice). They were brought to the laboratory and processed and frozen as soon as possible (within the first 24 hours, and usually within the first 12 hours after harvesting). Small collections, approximately a crate of each variety, were made from several plantings in the North Coastal area. Notes were made on the fresh material. Each sample was graded by hand into large, medium, and small-sized fruits. To obtain data on trimming losses, each lot was weighed before and after hulling and trimming. An average random sample of 200 grams was withdrawn from each lot for immediate analysis. The remaining berries were washed, drained, and prepared for freezing according to one or more of the following procedures:

(a) Sliced and mixed with dry sugar in 4 + 1 ratio of fruit to sugar;

(b) Sliced and mixed with dry sugar in 5 + 1 ratio of fruit to sugar;

(c) Whole berries mixed with dry sugar in 5 + 1 ratio of fruit to sugar;

(d) Shortcake pack (suggested by D. G. Sorber of U.S.D.A. Western Regional Research Laboratory). Three-fifths of the total amount of berries (chiefly those of medium size) were left whole. The remainder were crushed and mixed with sugar to make the ratio 5 + 1 in the total pack, when the crushed berries were poured over the whole berries;

(e) Sliced berries in sirup (300 grams berries in 150 g. 40° Brix sirup);

(f) Sliced berries in sirup and ascorbic acid (like [e] with 0.1 percent ascorbic acid in the sirup);

**Table 1.—Recent trends in strawberry production and freezing in California.**

| Year | Total production | Total frozen* |
|---|---|---|
| | (*pounds*) | (*pounds*) |
| 1940 | 34,020,000 | 1,000,000 |
| 1944 | 5,040,000 | 1,005,195 |
| 1945 | 6,269,400 | 969,741 |
| 1946 | 13,032,000 | 3,916,119 |
| 1947 | 29,232,000 | 8,306,041 |
| 1948 | 39,420,000 | 12,977,902 |
| 1949 | 42,732,000 | 9,285,433 |
| 1950 | 65,322,000 | 39,959,096 |
| 1951 | 76,276,000 | 40,236,935 |
| 1952 | 100,297,128 | 58,595,824 |

*Including variable amounts of added sugar.

**Table 2.—Trimming losses and proportions of large, medium, and small berries for each variety.**

| Variety | Trimming Loss | Large berries | Medium berries | Small berries |
|---|---|---|---|---|
| | *Pct.* | *Pct.* | *Pct.* | *Pct.* |
| Banner | 15.7 | 15 | 50 | 35 |
| Donner | 7.0 | 23 | 63 | 14 |
| Lassen | 5.8 | 27 | 56 | 16 |
| Shasta | 5.1 | 31 | 49 | 19 |
| Sierra | 6.2 | 15 | 60 | 25 |
| Tahoe | 8.4 | 23 | 62 | 15 |

**Table 3.—Summarized results of taste testing of strawberry varieties during four seasons (all packed with sugar 5 + 1 ratio).**

| 1946 | | 1947 | | 1948 Whole berriees | | 1948 Sliced berries | | 1949 | | Overall summary | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Rank order of variety | Average score | Rank order of variety | Average score | Rank order of variety | Average score | Rank order of variety | Average score | Rank order of variety | Average score | Rank order of variety | Average score |
| Shasta | 65 | Lassen | 72 | Donner | 69 | Donner | 74 | Lassen | 63 | Donner | 65 |
| Sierra | 65 | Shasta | 63 | Lassen | 69 | Lassen | 67 | Sierra | 63 | Lassen | 64 |
| Donner | 60 | Banner | 62 | Shasta | 67 | Shasta | 65 | Banner | 62 | Shasta | 64 |
| Tahoe | 60 | Sierra | 62 | Tahoe | 61 | Tahoe | 55 | Shasta | 60 | Sierra | 63 |
| Lassen | 50 | Donner | 59 | | | | | Tahoe | 57 | Banner | 62 |
| | | Tahoe | 59 | | | | | | | Tahoe | 59 |

(g) Whole berries in sirup (300 grams berries in 300 g. 40° Brix, the amount required to cover the fruit);

(h) Whole berries in sirup and ascorbic acid (like [g] with 0.1 percent ascorbic acid in the sirup);

(i) Whole berries in very light sirup (225 grams berries in 225 grams 20° Brix sucrose), which gave a 5 + 1 ratio of fruit to sugar, covered the berries and made a net weight of 1 lb; and

(j) Whole berries in very light sirup and ascorbic acid (like [i] with 0.1 percent ascorbic acid in sirup).

Packaging was done in one-pound cellophane-lined paper freezing cartons, Lily-cup type tub cartons, or cellophane-lined locker bags. The freezing was done in a local locker plant in a tunnel-type quick freezer at approximately −10° F. Storage at the same locker plant was from 0 to +10° F.

After storage for approximately three, six, and 12 months, the berries were thawed in the packages at room temperature and judged subjectively by untrained panels of about six individuals, generally including one or two experienced judges, all of whom considered color, appearance, texture, flavor and odor. The standard for a perfect score was each judge's subjective idea of a fresh strawberry. Duplicate samples were included frequently in the series (which were never larger than six samples), in order to test the accuracy of the judges.

Chemical and physical analyses were made on some of the fresh material and frozen and thawed samples which were prepared by blending for a minute or less in a Waring Blendor. The methods used in these analyses were:

**Acidity** (total titratable) was determined by Association of Official Agricultural Chemists (1) method and expressed as citric acid. pH was measured with a Beckman glass electrode. Color was matched with the plates in Maerz and Paul (11). Consistency was measured in a Bostwick consistometer, and was recorded as the distance (in centimeters) of flow which occurred within 30 sec. at 21° C. These readings were made immediately after blending in order to avoid changes which might be brought about by the presence of highly active pectic enzymes in the blended samples. Sugars were estimated by refractometer and were also sometimes determined by Hassid's (6) ceric sulfate method. Ascorbic acid was determined colorimetrically following essentially the method of Loeffler and Ponting (10). The results by this method were compared with those obtained titrametrically by following essentially Bessey and King's (3) method.

## Results and discussion

**Trimming losses:** In Table 2 the average results of three seasons' work on trimming losses, and proportions of large, medium, and small berries of each variety are summarized. It is interesting to note that the Shasta and Lassen which the growers of the Central Coastal areas found best adapted have the lowest percentages of trimming losses and the highest proportions of large berries. Since the hulls or calyxes alone represent only about two to three percent of the total weight in all varieties, the remainder of the trimming loss reflects bruising during handling, molding, etc. The relatively high resistance to bruising and high proportion of large berries are both favorable characteristics for fresh market fruits. In general the trimming losses increased with time between harvest and processing and distance between source and laboratory, but the averages given in Table 2 reflect fairly constant varietal trends which were observable in most of the individual lots harvested.

**Taste testing:** The results of the taste testing varied with the season, type of pack, and method of recording results. The judges were asked to score color and appearance, texture, flavor, and odor numerically. The scores were totaled and averaged. The variety having highest total average score was given first place in rank order for variety ratings. This was done on each of four seasons. The results are summarized in Table 3. The variety giving the highest average score for all quality factors considered and all participating judges in each season was placed at the head of the list and the others followed in order. In the last column of Table 3, the results of all four seasons are summarized and similarly arranged. The scores represent percentages of 100 (the judge's idea of a fresh strawberry).

A study of the table reveals that all average scores were within a relatively narrow range, (50 to 74) with two-thirds of them falling between 59 and 65. Furthermore, there was little consistency in the rank orders from season to season. These observations indicate that the varietal differences among this series are so small that no variety can be particularly recommended over any of the others as a freezing berry. More extensive appraisal under carefully controlled conditions as discussed by Boggs and Hanson (4) would be required to establish significant differences among these varieties for freezing.

However, closer study of the data from which Table 3 was constructed indicates that there were differences among the varieties which are not apparent from the data summarized and expressed as numbers and rank orders. These may be brought out by the following brief statements:

**Lassen** is a berry of low dessert quality in the fresh state. As a frozen product it is outstanding in color and this factor contributed markedly toward its rating. Flavor and odor in the frozen product were variable, but frequently somewhat deficient.

**Shasta**, when frozen is of low acidity and somewhat flat in flavor. Its color is less attractive being too light or faded and with a purplish discoloration. In comparing the data for Lassen and Shasta the two varieties are very close in acceptability, with perhaps a slight advantage for Lassen, mainly on the basis of color.

**Table 4.—Summary of analyses of fresh strawberries collected from two Central Coast fields (late August and early September).**

| Variety | Source | Sugars by Ceric Sulfate Method: Reducing sugar | Sugars by Ceric Sulfate Method: Sucrose | Sugars by Ceric Sulfate Method: Total sugar | Total sugar as sucrose by refractive index | Total acid as Citric | pH | Color by Maerz & Paul | | Consistency in 30 sec. at 20° C. | Ascorbic acid Titration | Ascorbic acid Colorimeter |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | *Pct.* | *Pct.* | *Pct.* | *Pct.* | *(g/100 g.)* | | | | *(cm. flow)* | *(mg. per 100 g.)* | |
| Banner | Albany | 5.96 | .53 | 6.49 | 8.7 | 1.01 | 3.38 | Plate | 3L4 | 8.9 | | |
| Lassen | Albany | 5.80 | .30 | 6.10 | 8.3 | 1.02 | 3.20 | " | 2K11 | 10.0 | 65 | 73 |
| Lassen | Madrone | 4.90 | .49 | 5.39 | 7.4 | 1.092 | 3.63 | " | 3L10 | 11.5 | | |
| Shasta | Albany | 6.59 | 0 | 6.59 | 9.1 | .88 | 3.40 | " | 2L10 | 10.4 | 62 | 71 |
| Shasta | Madrone | 5.78 | 0 | 5.78 | 7.1 | .902 | 3.40 | " | 4L10 | 11.0 | | |
| Sierra | Albany | 7.26 | .28 | 7.54 | 10.3 | 1.22 | 3.25 | " | 3L10 | 7.0 | 68 | 70 |
| Sierra | Madrone | 5.92 | .95 | 6.87 | 9.5 | .978 | 3.49 | " | 3L4 | 8.2 | | |
| Tahoe | Albany | 6.52 | .34 | 6.86 | 9.1 | .86 | 3.30 | " | 3L10 | 10.5 | 121 | 30 |
| Tahoe | Madrone | 5.36 | 1.17 | 6.53 | 8.1 | .886 | 3.68 | " | 3L7 | 9.6 | | |

Sierra has highest total sugar in each place; Shasta has no sucrose in either place; Driscoll's Madrone all have a relatively higher proportion of sucrose. This may be because they stood longer before processing and analysis; pH higher on Driscoll (Madrone) samples (except Shasta).

**Donner** also has a rather faded appearance and low aroma after freezing. Its flavor is fair to good, but of low acidity. Texture is fair.

**Sierra,** when frozen is of medium acidity and fair flavor. Its color is a good light red with very prominent yellow achenes. Textures and aroma are not outstanding.

**Tahoe,** frozen, is of low acidity, is flat in flavor and odor, but it has a fairly good red color with prominent dark achenes.

**Banner,** with a much deeper red color, is strikingly different from the above five varieties. Its acid sugar balance and odor are pleasing. Besides its cultural disadvantages, the fruit is small and flabby.

## Preparation for freezing

The effect of the method of preparation for freezing may be summarized with the statement that the usual procedure of slicing and carefully mixing with dry sugar in a 4+1 or 5+1 ratio gave the best results for general purposes. The special shortcake pack has certain advantages when used for this one purpose, or for sundaes. Whole or sliced berries packed with sirup present the problem of too much liquid in the thawed product, and the whole fruits do not retain their natural shape or texture very well. The 40° Brix sirup pack was far superior to the 20° Brix. The 20° Brix pack was made to get an actual ratio of fruit to sugar of 5 to 1, having the fruit covered with sirup and a net weight of one pound. The commercial packers were interested in this during the 1946 season. For flavor, color, and aroma retention during storage, sirup packs with added ascorbic acid had a slight advantage over straight sirup packs. Probably it would be of value in increasing the retention of natural ascorbic acid, over half of which was lost during the first six months of storage, according to Mayfield and Richardson (12).

Scott and Schrader (14), Loeffler (9) and others enumerated by the latter, found much smaller losses in natural ascorbic acid during processing, freezing, and storage. Losses were heavy if storage was prolonged after thawing. Addition of synthetic ascorbic acid, if economically feasible, would certainly be advantageous in counteracting the natural losses occurring under various conditions of handling, be they large or small.

## Analytical results

In Table 4 the data on analyses of fresh Central Coastal strawberries of the late 1949 season are summarized. Each figure represents an average of two or three determinations. Several interesting observations may be made from these data. The pH of each variety (except Shasta) was higher in the sample from Madrone (a commercial field) than in the sample from Albany (an experimental plot). Free titratable acidity was also higher in the Madrone samples than in those from Albany. Ascorbic acid by the colorimetric method did not vary significantly among the varieties except Tahoe, which was markedly lower. The direct titration method, which is subject to considerable visual error in interpretation of the end point, agreed fairly closely with the colorimetric except for Tahoe, but here the result was markedly high for the variety. No reasonable explanation of this discrepancy is apparent. With the exception of this one variety, the ascorbic acid contents of these varieties were within the range reported by other workers. (See Ezell, et. al. [5], Slate and Robinson [15], and general food tables.) Consistencies of all varieties except Tahoe were found to be a bit heavier for the Albany samples. Similarly total sugar was higher in the Albany than in the Madrone samples. Sierra had the highest total sugar, and heaviest consistency in each growing district, while Lassen had the lowest. All varieties contained mainly reducing sugars, while Shasta contained no sucrose at all. Furthermore, of the varieties

*(Continued on page 52)*

**Table 5.—Summary of analyses on frozen strawberries, after three months' storage at 0° F.**

| Variety | Source | Total sugar as sucrose by refractometer | Total acid as citric | pH | Color by Maerz and Paul | Consistency in 30 sec. at 20° C. |
|---|---|---|---|---|---|---|
| | | *Pct.* | *(grams per 100 g.)* | | | *(cm. flow)* |
| Banner | Albany | 22.5 | .855 | 3.37 | Plate 4 L 4 | 11.9 |
| Donner* | Albany | 22.4 | .665 | 3.35 | Plate 3 K10 | No data |
| Lassen | Albany | 21.4 | .756 | 3.22 | Plate 3 L 2 | 14.4 |
| Lassen | Madrone | 21.1 | .717 | 3.62 | Plate 4 L 6 | 12.5 |
| Shasta | Albany | 21.4 | .667 | 3.40 | Plate 4 L 1 | 13.1 |
| Shasta | Madrone | 22.9 | .562 | 3.40 | Plate 5 L 6 | 15.3 |
| Sierra | Albany | 24.1 | .821 | 3.32 | Plate 4 L11 | 9.9 |
| Sierra | Madrone | 23.9 | .707 | 3.51 | Plate 5 L 5 | 12.5 |
| Tahoe | Albany | 21.6 | .782 | 3.28 | Plate 3 L10 | 14.4 |
| Tahoe | Madrone | 22.6 | .667 | 3.64 | Plate 4 L10 | 14.6 |

* From 1948 season.

# Quality Control Clinic

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EDITOR

SPEAKERS AT RECENT OHIO fieldmen's meeting included (l. to r.) Von Jones, Greenville Canning Co.; Earl J. O'Donnel, Klenzade Ohio Co.; and Norman C. Healy, U. S. Dept. of Agriculture.

## *Processors and industry representatives alike benefit from state short courses*

### Successful Ohio meeting is typical of winter sessions held in major food-processing states and areas

DURING THE PAST FEW MONTHS, growers and food processors have been attending conferences of many kinds, trade association and fieldmen's meetings, and "short courses" held at agricultural experiment stations and state universities.

These continuing educational meetings are planned many months in advance by industry committees working together with research and extension people. Under this splendid cooperative program, industry suggests topics of major interest to groups concerned, while state workers propose subjects that deal with practical application of new research findings. Thus, growers and processors are better fortified with answers to problems, and in addition, gain new ideas for use in the coming season.

At the four-day conference held recently at Ohio State University, several vital subjects were discussed, ranging from the bankers' stake in soil security to how the job is done in other states. This article will take up briefly five of the major topics covered at the recent meeting: (1) production practices on tomatoes; (2) harvesting and handling; (3) grades and quality control; (4) sanitation and waste disposal; and (5) role of research and extension.

#### Production practices on tomatoes

E. C. WITTMEYER, Ohio canning crops specialist, described the state's Top Ten Tomato Club, pointing out that the club was organized in 1947 and now represents the top 10 percent of the growers in Ohio in respect to yields. The 1953 member-yield was 16.62 tons per acre, compared with the over-all state yield of 11.6 tons. CHESTER MAUCH, a H. J. Heinz Co. grower, was a champion grower with an average of 24.4 tons of tomatoes from 7.18 acres. OTTO CORDES, another champion grower who produces for Campbell Soup Co., averaged 23.36 tons from 15.8 acres.

Wittmeyer said that in addition to considerably higher yields, club members also have raised more No. 1 tomatoes than state averages. Indicating that records reveal that club members are outstanding in the use of approved practices, Wittmeyer added that the basic practice responsible for these records is better soil management.

Tomatoes need fields that are well-drained, rotations with sod crops ahead of tomatoes, adequate plant food, and an effective pesticide program. In 1953, Ohio's club members averaged 4.4 applications of fungicides. Eighty-seven percent used ground-spraying equipment. Wittmeyer also pointed out that the Rutgers variety was the most popular among member tomato growers. Several earlier maturing varieties were planted to extend the season, however.

#### Harvesting and handling

VON JONES of the Greenville Canning Co., Greenville, O., showed still and motion pictures of the new hydraulically driven tomato harvester that his company has developed. Jones said that last year, the first the machine was used, the machine's operation was successful. The company plans to have two of them in use this year. He said one of its big advantages is that each tomato is inspected as it goes into the hamper, resulting in improved grade and uniformity. Jones also pointed out that the machine eliminates picker fatigue, thereby enabling pickers to harvest more fruit than by the old method.

I reported recently on practices observed in the handling of tomatoes in California (FOOD PACKER, January 1954). Illustrations with the article showed the use of 50-pound lug boxes, pallets, fork-lift trucks for handling pallet loads (2,100 pounds), and the system of washing lug boxes before being returned to the field.

#### Grades and quality control

NORMAN C. HEALY, U. S. Department of Agriculture, discussed tomato research conducted during the past four years with respect to the grade relationship of the raw product to the finished product; this research was conducted in New York, Indiana, and Ohio. Referring to the studies conducted in Ohio, Healy stated: "(1) The Hunter Color and Color Differ-

ence Meter can be used objectively for determining raw product color grade; (2) the Macbeth-Munsell Disk Colorimeter has been developed to increase accuracy of color grading visually; and (3) present U.S. Standards for Canning Tomatoes and for Tomatoes for Manufacture of Strained Products would be more indicative of color in the processed product, enabling production of more uniform quality products, if US No. 2's were separated into No. 2's for color and No. 2's for defects."

Healy also expressed the need for a simpler instrument for evaluating raw product color. He described the work of USDA this past season with the Hunter machine and the Model F Agtron in conjunction with sampling procedures to arrive at more objective grading procedures for raw tomatoes.

REES B. DAVIS, Horticulture Department, O.S.U., described the method used for determining *Drosophila* fly eggs in tomato products. He demonstrated with slides this quality-control technique. The method can be used to determine the presence of fly eggs in raw tomatoes as received at the factory, or in the finished product.

### Sanitation and waste disposal

EARL J. O'DONNEL of Klenzade Ohio Co., Elyria, discussed practical cleaning of food-processing plants. He pointed out that "The cleaning problems in a canning plant are as numerous as the types of 'soil' that are encountered." He further stated that "soil is a term used to identify any material such as dirt, deposits, residues, or anything that must be removed from a surface in a cleaning operation. These soils are generally a mixture of many substances of different physical and chemical characteristics, but they can be classified on the basis of their solubility, i.e., (1) water-soluble; (2) acid-soluble; and (3) alkali-soluble." He concluded his remarks with, "The new advances in cleaning techniques and aids should make it possible for the canning industry to do much to help itself in raising its sanitation standards."

A full half day was devoted to waste disposal, with emphasis given to the Ohio Canners Association's research program on spray irrigation of laniated waste. DR. H. D. BROWN, Ohio State, summarized the 1953 results and announced plans for the 1954 study.

### Research and extension role on the team

DR. F. S. HOWLETT, chairman of O.S.U.'s Horticulture Department; posed several thought-provoking questions on the subject of "What research in horticulture can do for the canning industry." He emphasized that canned foods have two primary competitors: frozen products and fresh products. This is not true for all fruits and vegetables, he said, but is true for certain commodities. Some of his questions were: "Do you as canners plan to just hold the percentage of business you now have? If you are competing with frozen commodities, how will you compete with improvement in the products? Does the home-maker buy because of price? Are the processing techniques at the perfect stage now?"

The above comments from these speakers are only a portion of their remarks, and are drawn from only one state meeting. More than 50 speakers appeared on the four-day program in Ohio. It's true in this state as well as others throughout the country that growers and processors profit immeasurably by participating in, and supporting programs of this nature which are co-sponsored by industry and state personnel. Wherever food processing is of economic importance, individual growers and industry representatives should take advantage of these opportunities to help continue to improve their own operations.

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## New books

### ASTM shipping standards

ASTM STANDARDS ON PAPER AND PAPER PRODUCTS AND SHIPPING CONTAINERS. *Published by American Society for Testing Materials, 1916 Race St., Philadelphia 3, Pa.* 1953. 382 pages. $2.50.

This valuable reference handbook is one of a series of special compilations of ASTM standards relating to specific materials fields. It contains methods of testing, specifications and definitions for paper, paper products and shipping containers, and should prove of value to all those connected with the paper manufacturing industry. Of particular interest is the monograph on "Paper and paperboard—characteristics, nomenclature and significance of tests."

### Chemistry and technology of juice production

THE CHEMISTRY AND TECHNOLOGY OF FRUIT AND VEGETABLE JUICE PRODUCTION. By Donald K. Tressler, Ph.D., and Maynard A. Joslyn, Ph.D., in collaboration with a group of specialists. *Published by The Avi Publishing Co., Inc., New York.* 1954. 962 pages. $15.00.

Twenty outstanding specialists in food research have collaborated with Drs. Tressler and Joslyn to produce this new and important book. Each chapter has been written by an expert who has devoted years of study to the topic about which he has written.

Containing many illustrations, charts and graphs, the book includes chapters on sterilization filtration and chemical preservation; jelly manufacture; volatile flavor recovery; plant sanitation; and quality control. It should be of special interest to canners, freezers, manufacurers of jelly and jam, and dehydrators of fruit and vegetable products.

### Weights and measures

REPORT OF THE THIRTY-EIGHTH NATIONAL CONFERENCE ON WEIGHTS AND MEASURES. *Published by the U. S. Dept of Commerce, National Bureau of Standards, Washington 25, D. C.* 1953. 116 pages. 40 cents.

This publication contains the reports on weights and measures given by representatives who attended the NBS conference, May 19-22, 1953, and a list of all delegates including the conference's officers and committees. The 430 delegates, largest in conference history, spoke on such topics as prepackaged foods, automatic packaging machinery, and electronic scales.

### Strawberries in Germany

THE STRAWBERRY. By K. P. Thiele and Andreas Knauth. *Published in Germany, can be ordered through Joseph Ebel, 11 Broadway, New York 4, N. Y.* 1953. 368 pages.

This scholarly and well-illustrated treatise on the strawberry—its varieties, cultivation, description and processing—is written in German. Part I contains information on the history of strawberries and their growers. Part II gives the soil and climatic conditions for growing, and information on picking, packing and marketing of berries.

Part III deals particularly with gardening varieties; and Part IV gives detailed information on canning and processing of berries.

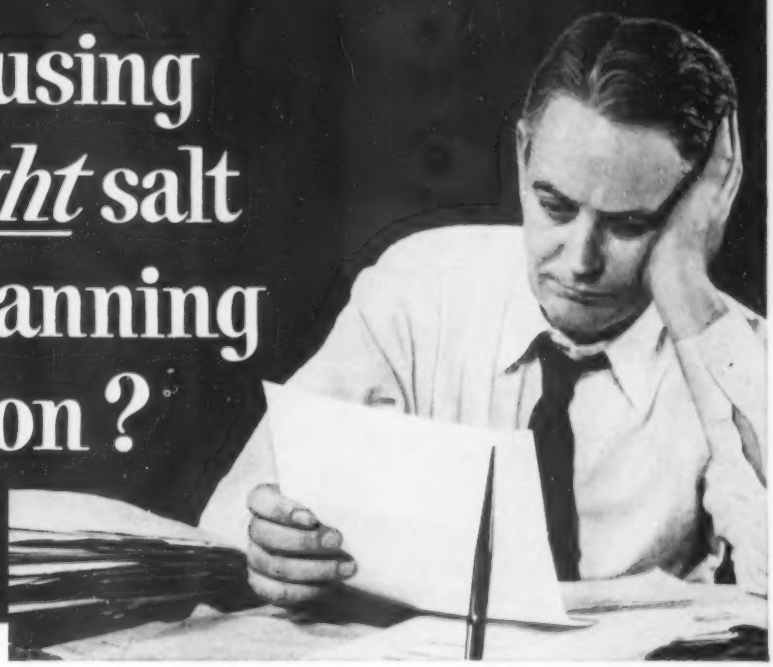
---

## Clovers & aphids carry virus harmful to peas

Clover plants and aphids are partly responsible for a virus disease that can be serious in Wisconsin's large pea-canning crop, according to University of Wisconsin plant disease specialists D. J. Hagedorn and C. H. Graves.

They point out that red clover, alsike clover, and sweet clover can all contain viruses harmful to the pea crop. Pea aphids carry the disease to peas after feeding on infected clover plants. The specialists say that "pea stunt" virus is found in clover plants more often than any other virus. Volunteer clovers seem to carry the disease more often than plants growing in fields. The virus that causes pea stunt is the same that causes red clover vein mosaic.

# Are you using the *right* salt in your canning operation?



The *right* salt—and the *right* salting method—can save you money *and* improve your product.

And that's where Morton's *3-Way Salting Service* can help you plenty!

**First,**
Morton offers expert advice on the *right* salt and *right* salting method for your operation through its trained staff of Consulting Engineers. On request, a representative will call and analyze your particular requirements . . . with the objective of saving money and improving quality.

**Second,**
only Morton offers a *complete* line of canning salts —including the *right* salt for your needs, always available at favorable prices and freight rates. This is possible because only Morton has *nine* plants, strategically located to serve you promptly and economically wherever your cannery may be.

**Third,**
Morton offers three labor-saving salting methods that can cut your costs. The *Salt Tablet Depositor* drops *one* tablet in *each* can at high speed with never-fail accuracy. The *Bulk Salter* meters precise amounts into each can by the economical bulk method. The *Morton Brinemaker* delivers up to 800 gals. of clear, fully saturated brine an hour, piped anywhere in your plant.

**Stop and Think!**
A thorough, no-obligation study of your salting operation may boost your profits. Better mail the coupon below today!

**MORTON SALT COMPANY**
Industrial Division
Dept. FM-4, 120 S. LaSalle St.
Chicago 3, Illinois

**CLIP AND MAIL COUPON TODAY!**

Please send me full details on the Morton Brinemaker. I would also like information on:

☐ Morton Canning Salt ☐ The Bulk Salter ☐ The Salt Tablet Depositor

Name and Title _____

Firm _____

Address _____

City _____ Zone ____ State _____

*(Brinemaker not available on West Coast)*

easiest opening
Vapor-Vacuum catsup caps open with uniform ease; never too tight or too loose! Use the key opener and they're far and away the easiest of all to open!
easiest closing
Just slip them on without twist or fuss—and they hold! Nudge them down and you get an air-tight re-seal, a better re-seal than any other cap —and easier, too!

# worry free!

**Why are most catsup inventories depreciation-proof and worry-free? *There's one great, yet simple reason:***

No matter what the approach to catsup packaging, one big fact keeps bobbing up. Try as you will, you can't bury this stubborn fact—because it's the heart of the problem.

The inescapable fact is simply this:

*The job of a catsup package is to keep the contents 100% fresh, even if it has to be carried over into a second year.* The only way to make sure that the inventory value of catsup doesn't ever depreciate . . . the only way to avoid costly reinspection and substantial losses . . . is to package the product *in a 100% loss-proof container.*

Catsup packers *know* that Vapor-Vacuum sealing for catsup is loss-proof. They know, from long experience, that darkening, flavor changes, and neck-plug just don't happen in a Vapor-Vacuum sealed package.

*Above all others,* the Vapor-Vacuum sealed catsup package is *worry-free!*

# trouble free!

**What's the best way to make sure that trouble stays away from hard-pushed catsup lines? *That's easy!***

The best way to make trouble stay away from your door, during catsup packing season, is to *keep Vapor-Vacuum Sealing* on the job. With Vapor-Vacuum at the sealing stage, *trouble is a stranger!*

More than 3 billion perfectly sealed bottles of catsup attest to this never-to-be-forgotten fact.

These billions of bottles have established the fundamental principle that *no catsup packer need ever worry about the sealing stage of his lines.* They have established the rule that, no matter how great the pressure of production, sealing can be trouble-free . . . that interruptions, faulty sealing, torque problems and other production troubles just needn't happen!

Lines that seal their catsup the Vapor-Vacuum way are the most efficient in the industry. Their operations are smooth. Their packaging cost-per-unit is low.

There's no escaping it: *The sure way to trouble-free sealing is the Vapor-Vacuum way!*

4-54

## "VAPOR-VACUUM" Seal and Re-Seal

PRODUCT OF WHITE CAP CO. CHICAGO

(Above) La Choy's new label (right) as contrasted to the old. New label carries a picture of the product, thereby increasing "Eye & Buy" appeal.

(Below) Here's the "New Look" on La Choy's complete line—new can sizes, attractive new colorful labels and dinner cartons, and ultra-modern Soy Sauce no-drip bottles with pretty red caps.

Hungerford Packing Co.'s new label that is going on its famous York County Dutch canned onions. Studies of current labels, awareness of billboard value, and consumer research preceded the actual design, and all these factors were combined to bring entirely new label into existence.

# La Choy Food Products and Hungerford Packing Co. give their products new "face lifting"

**La Choy:**

La Choy Food Products, Archbold, Ohio, a division of Beatrice Foods Co., has now completely converted to all new can sizes, attractive new colorful labels and dinner cartons, and ultra-modern Soy Sauce no-drip bottles with new contrasting red caps, Edward M. Muldoon, general manager, announces.

All the changes have taken place gradually and smoothly during recent months with La Choy prices being materially reduced during the conversion period.

In general, the change has been from a No. 2 can size to the 303-size. (Water chestnuts and bamboo shoots have been changed from an eight-ounce to a five-ounce to sell at a much lower price.) Both the new 303 and 3-lb. labels show an attractive vignette of the product that is already stimulating self-service customer impulse buying. In changing the old No. 2 labels to the new 303 labels, La Choy has kept the basic individual color combinations which identify each individual product. However, the La Choy brand name in script has been featured on every product so that each individual item is identifiable as a member of the La Choy family group. Special labels were printed by Calvert Lithographing, Detroit.

Each product is easily identified by a different color combination. The consumer can readily locate the product desired and the stock clerk or store manager can quickly check his stock. This facilitates store ordering and shelf arrangement. The bright color combinations stand out and blend into a most attractive display in a complete Chinese food section. Proven sales results have influenced the majority of successful supermarket merchandisers to heartily endorse La Choy's original suggestion that all Chinese food belonged grouped together in a Chinese food section.

La Choy continues to use gold trim and USDA and BAI seals on the new labels to add emphasis to the top quality of their quality-controlled, completely government-inspected

(Continued on page 60)

**Hungerford:**

Bill Free's Hungerford Packing Co. in Hungerford (York Co.), Pa., decided 15 months ago to discard entirely the long-established design of its famous York County Dutch label for canned onions. Instead of cleaning up or brightening the old label, Hungerford decided on an entirely new label and placed the design job in the hands of H. S. Crocker Co.

Studies of current label practices, an awareness of the billboard value of a label, and consumer research preceded the actual design; and all of these factors were combined to bring into existence the entirely new label now appearing on this firm's products. Trade and consumer reception of the new label has been so spectacular that the decision has been made to replace the old designs for all the company's products. These products include sliced and cut green beans, wax beans, and tomatoes.

Many of the advantages of the newly-designed label are readily apparent in the photograph showing Hungerford's onions; but unique among the new label's advantages is a revolving "bank" of recipes; changing so frequently that the housewife will receive a new recipe on the label of every third can purchased. Recipes were developed in Hungerford's own

(Continued on page 42)

# *Life Stream of Industry*

# BRINE

***Now Yours Automatically Where You Want It —When You Want It***

CANNING

TANNING

WATER SOFTENING

MEAT CURING

DYEING

CHEMICALS

YOUR INDUSTRY, like so many others, very probably uses brine in its operation.

And now the LIXATE Process, pioneered and developed by the International Salt Company, takes all the complications, all the inaccuracies, all the costly handling out of brine making. You use rock salt—and gravity does all the work.

You just turn a valve and *instantly* you have brine where you need it, when you need it—automatically!

And because this pure brine is *always* 100% saturated, because it *always* contains exactly 2.65 pounds of salt per gallon, your brine measurements are *unfailingly* 100% accurate.

Hundreds of companies have saved thousands of dollars, have improved the quality of their products by installing the LIXATE Process. Let International's Industrial Division help *you*. Send the coupon below, today.

INTERNATIONAL SALT COMPANY, INC.
INDUSTRIAL DIVISION, Scranton 2, Pa.

I am interested in knowing what the *Lixate* Process can do for MY plant. Please have an International Industrial Engineer contact me as soon as possible. I understand there is no cost, no obligation.

FIRM NAME_____

ADDRESS_____

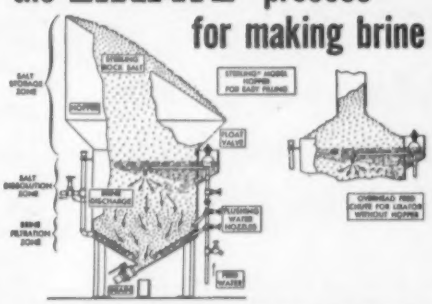
CITY_____ ZONE_____

STATE_____

MY NAME_____

MY TITLE_____

## the LIXATE* process for making brine

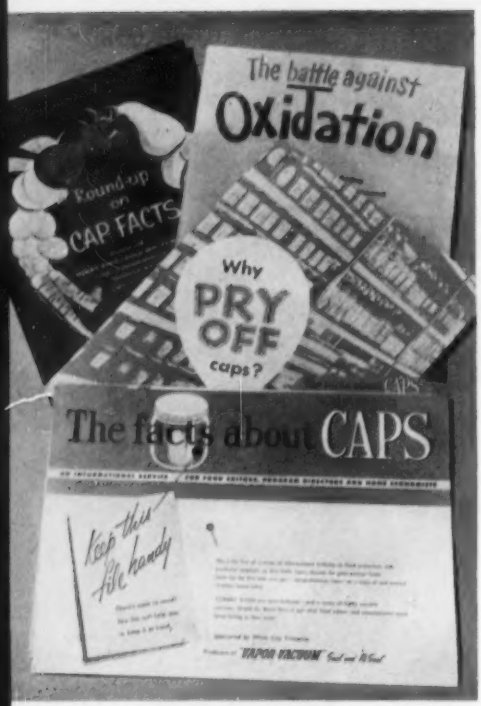


## HOW LIXATOR WORKS

**In the dissolution zone**—flowing through a bed of Sterling Rock Salt which is continuously replenished by gravity feed, water dissolves salt to form 100% saturated brine. **In the filtration zone**—through use of the *self-filtration* principle *originated by International Salt Company*, the saturated brine is thoroughly filtered through a bed of *un*dissolved rock salt. The rock salt itself filters the brine. Nothing else is needed.

**INTERNATIONAL SALT CO., INC.**
**SCRANTON, PENNSYLVANIA**

SALES OFFICES: Atlanta, Ga. • Chicago, Ill. New Orleans, La. • Boston, Mass. • St. Louis, Mo. Newark, N. J. • Buffalo, N. Y. • New York, N. Y. Cincinnati, O. • Philadelphia, Pa. • Pittsburgh, Pa. Richmond, Va. • ENGINEERING OFFICES: Atlanta, Ga. Chicago, Ill. • Buffalo, N. Y. *Reg. U. S. Pat. Off.




**Four attractive mailing pieces, relating the history of vapor-vacuum sealing, and outlining the advantages of the pry-off cap, are being distributed to 20,000 food editors, home economists, food packers, and others in the food industry by the White Cap Co. of Chicago. Prefaced by remarks from four of the nation's outstanding food authorities, the bulletins mark one of the early steps in an extensive public relations program to present advantages of pry-off vacuum caps.**

## Full story of closures for glass revealed by The White Cap Co.

IN A MAJOR PROMOTIONAL effort, a series of four informational bulletins on the advantages of vacuum pry-off caps for foods is being distributed to 20,000 food editors, home economists, food packers, and others in the food industry throughout the nation, it was announced March 16.

The mailings have been prepared by the White Cap Company of Chicago, which produces most of the vacuum-seal caps applied to billions of glass food containers each year.

Entitled "The Facts about Caps for Foods Packed-in-Glass," the illustrated bulletins launch an extensive promotion and public relations program to present the importance of pry-off vacuum caps and glass food containers, according to John C. Swift, sales manager for the firm.

The bulletins are prefaced by four of the nation's outstanding food authorities. Guest editors are: Lila M. Jones, head home economist for the H. J. Heinz Co.; Marye Dahnke, director of the consumer service department, Kraft Foods Co.; Mary Meade, food editor of the Chicago Tribune; and JoAnn Shurpit (Mary Hale Martin), home economist for Libby, McNeill and Libby Co.

Distributed at two-week intervals, the mailings are going to home economists in schools and industry, food editors of newspapers and magazines, women commentators on radio and television, and other opinion moulders in the food field, as well as leading packers, grocers, and food brokers.

"The story behind vacuum pry-off closures for glass-packed foods is one that has never been told before," Swift said. "Because almost all the leading food packers use pry-off caps on thousands of different products, we regard these mailings as an educational service of benefit to the entire food industry."

The six-page bulletins explain in detail the different types of closures for food packed in glass; point out why all perishable and certain semi-perishable foods require vacuum sealing; give detailed information on a key-type of opener for pry-off caps, and explain how a vacuum seal is obtained.

As an example of the type of information presented, one bulletin states that on at least half of all foods packed in glass, there is no choice but to use the vacuum pry-off can. This classification includes the highly perishable foods such as fruits, vegetables, and meats. In addition, it includes those products which are packed at sterile temperatures or pasteurized, such as jams, jellies, fruit juice, and process cheese. These foods must maintain the perfection of product at time of sealing until opened by the consumer.

Explaining the importance of vacuum sealing, the bulletin reads: "Outer air is the carrier of several deadly enemies of food, enemies which attack the freshness, flavor, and color of most packaged foods, and sometimes even the purity. Oxygen in the air, for instance, attacks the color and changes the flavor of many foods. Air can carry other destroyers too. The common molds are air-borne. Air in contact with food can cause sogginess or drying out—and can reduce the vitamin content.

"Many foods in glass-packed containers would not be available if the vacuum pry-off cap had not been developed," the bulletin continues. "In two decades, it has revolutionized the packaging of foods in glass, and changed a relative luxury into an economical mass production staple."

Printed in three colors, the pamphlets have been produced by H. B. Law, Inc., the company's advertising agency. Copies are available without charge from the White Cap Co., 1819 N. Major Ave., Chicago.

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**A non-radioactive dummy of Argonne National Laboratory's newly-developed radioactive concrete source is shown. Herbert Brown, a chief chemical process operator, holds the radiation well which is used to mix, by remote means, the radioactive concrete and which provides the cavity into which materials to be irradiated are placed. In a radioactive source, which is identical in appearance, a heavy lead lid would cover the top of the shield in order to prevent the escape of radioactive rays. (Argonne photograph).**

## Atomic waste products to be used experimentally for irradiation of foods

STERILIZATION OF FOOD PRODUCTS may soon be an important commercial peacetime use of atomic energy.

For the first time, waste products from atomic bomb manufacture are now to be used for experimental irradiation of foods in the laboratories of the Department of Food Technology at the Massachusetts Institute of Technology.

The Argonne National Laboratories, operated by the University of Chicago in Lemont, Illinois, announced recently the shipment to M.I.T. of the first of a new type of experimental radiation source which uses nuclear reactor waste products.

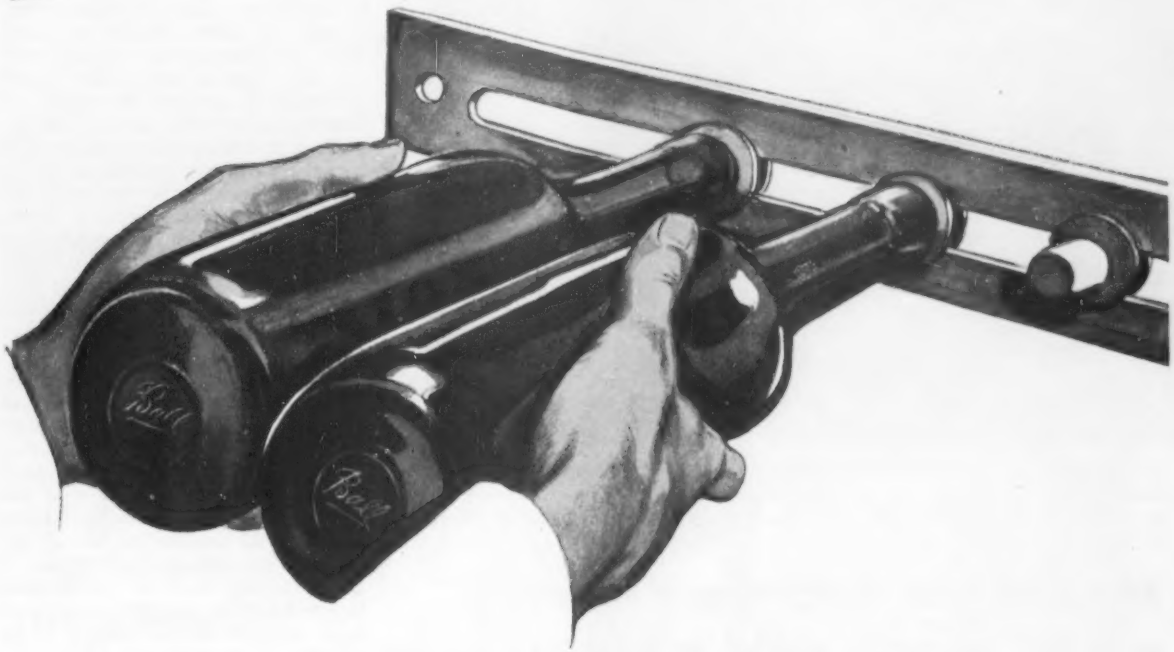
At M.I.T. this source is to be used in connection with equipment which will for the first time make possible irradiating food in commercial-sized containers.

This, says Prof. Bernard E. Proctor,

*(Continued on page 44)*

*Faster Filling Lines!*

**NO "THROAT-CHOKE" IN BALL BOTTLES!**




# EACH AND EVERY BOTTLE IS THROAT-GAUGED AT BALL

No random "sample" inspection, at Ball —every narrow-necked bottle is checked on a scratch-proof throat gauge to make certain that the filling machines in your plant will be able to handle each container without "throat-choke."

This is just one of many extra, careful quality control measures we take in the completely modern Ball plants, to assure delivery of your order exactly as specified. Whatever your requirements in glass containers, call Ball first of all.

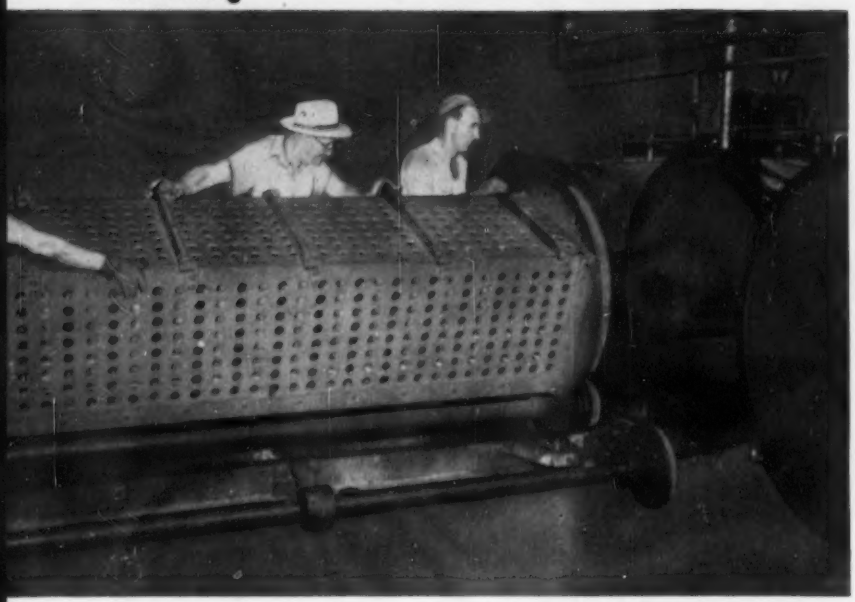
©1954 B.B.Co.

**BALL BROTHERS COMPANY**

*Offices in All Principal Cities*

PLANTS AT:
MUNCIE, INDIANA • CHICAGO, ILLINOIS *(Closure Division)*
HILLSBORO, ILLINOIS • OKMULGEE, OKLAHOMA
EL MONTE, CALIFORNIA

**CALL BALL FOR QUALITY GLASS CONTAINERS, METAL CLOSURES, AND PACKAGING ENGINEERING SERVICE**



AT THE STREATOR CANNING CO.: Here the filled crate is wheeled into one of the four Berlin Chapman horizontal retorts. Cans are first pressure-cooled after cooking, then are cooled to atmospheric pressure, all in the retort. Crate revolves slowly at speed of 16 r.p.m.

# Streator uses Agitating-Vacuum process to pack white w.k. corn

## Illinois cannery obtains better retention of flavor, color, and vitamins when compared to conventional methods

THE STREATOR CANNING CO. combines agitated processing with vacuum packing to can a high-quality white whole-kernel sweet corn that is in great demand at a premium price by the institutional trade.

The company, located in Streator, Illinois, and headed by popular W. R. "Bill" Benner, packs this corn in a heavily constructed, 54-ounce (603 x 408), No. 10 "squat" can made by American Can Co. under the Agitating-Vacuum Process developed by Canco. This new process is a direct outgrowth of the vacuum packing of vegetables which was introduced to the canning industry by Canco in 1928.

Briefly, the can company demonstrated that succulent vegetables had a fresher, more attractive appearance if only a little or no brine was used in the canning process, and the cans were closed under a high vacuum before processing. Vacuum packing permits both the food and the small amount of brine to be filled cold. Furthermore, there is less extraction of the water soluble vitamins and minerals than occurs when the products are packed in a larger amount of brine.

The agitating-vacuum process used at the Streator plant (batch-wise end-over-end rotation) was worked out primarily by Canco researchers H. L. Roberts and P. Sognefest, and a patent was issued to them as members of the American Can Co., in 1950.

Advantages of this process as used in the Streator plant, according to Mr. Benner, are better retention of flavor, color, and vitamins as compared with the same type of corn packed under conventional methods. He points out that his product does not compete directly with canned brine-packed whole kernel corn in the institutional trade. Rather, the product has the color and general appearance of fresh or frozen corn and the flavor of canned corn, and is sold on that basis to a select clientele that includes the better-class hotels and other institutions that are willing to pay for the superior canned product.

It's known that in general vacuum-packed vegetables require a more severe process to bring about commercial sterilization than is required for brine-packed vegetables. Typical processes for whole kernel corn are 25 minutes at 250° F. for No. 2 brine pack and 35 minutes at 250° F. for 12-ounce vacuum pack. Because of the darkening effect on the product imposed by the relatively severe process required for sterilization, white varieties of corn have never been successfully packed by the standard vacuum-packing method, employing conventional processing equipment such as standard horizontal or vertical retorts.

Streator's No. 10 squats are cooked for 17 minutes at 250° F. in the installation of four batch retorts made by Berlin Chapman Co. and of a type commonly used in the evapo-

*(Please turn page)*

W. R. Benner, president of Streator Canning Co. (left) is shown here with other management staff members (l. to r.) W. J. Patton, sales manager and assistant plant manager; Arthur R. Green, plant superintendent; and J. B. Loftus, head field man for the Illinois canning firm.

**Have you checked your property values in the last 6 months?**

**Is your insurance coverage adequate?**

**Is your insurance up to present-day cost levels?**

**Check today's values against your present insurance**

Negative answers to these questions mean it's time for additional protection for your property investment in view of today's inflated replacement prices. The best way to improve your insurance coverage . . . strengthen your protection . . . and realize the lowest net cost . . . is through the services of a specialist. Canners Exchange offers you the advantage of 46 years of experience in handling coverage for food processors.

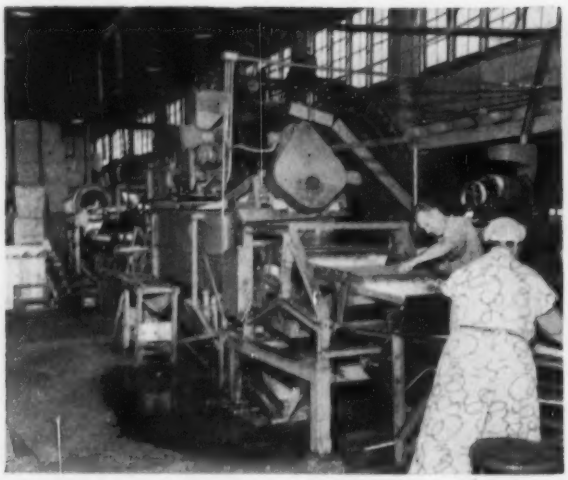
LANSING B. WARNER, INC. ★ INSURANCE ★

# Canners Exchange®

**LANSING B. WARNER, INC.**

**4210 PETERSON AVENUE · CHICAGO 30, ILL.**

46 YEARS OF DEPENDABLE SPECIALIZED FIRE INSURANCE FOR FOOD PROCESSORS



Whole-kernel corn used for Agi-Vac processing passes through the TUC washer & cleaner, then is subjected to high-pressure spray wash. Inspection table (right foreground) discharges into a Scott washer-elevator that takes corn to the vibrator separator on second floor.

Reel-type retort crate is loaded with 366 cans of vacuum-packed corn preparatory to cooking. Crate lid (foreground) is fastened securely to crate so that entire unit revolves in retort. Cans leave seamer and are conveyed direct to can ramp (shown at rear of worker).

rated milk industry. In operation, the cans are placed in a revolving reel so that they will be agitated end-over-end continuously during the cooking period. The reel cover is fastened on securely, then the reel is wheeled on a track into the horizontal retorts. The retorts revolve slowly at a speed of 16 revolutions per minute. Research conducted by American Can Co. during the development of agitated vacuum processing indicates that the rate of heat penetration is only slightly influenced by the speed of rotation in the range of 10 to 40 revolutions per minute.

### Only young corn used

White corn to be vacuum-packed as whole kernel is brought to the plant in a much younger state than corn to be made into cream style. This is because the extremely short cook does not permit tenderizing. A closely coordinated field force, managed by J. B. Loftus and equipped with two-way radio, assures the proper maturity of incoming corn. On arriving at the plant, the corn is husked on FMC or Morral huskers. Next the cars are washed in a FMC rotary washer under a spray wash of 150 psi then are sent to the trimming and sorting belt.

The ears are washed again on a second FMC washer and are here sorted by hand, the very young ears going into the agitated-vacuum line. First the ears pass through the FMC cutters and next are conveyed through a TUC whole-kernel washer and cleaner. On emerging from the cleaner, the kernels are inspected again then are pumped through a Scott elevator to a Carter vibrating separator and drier on the upper floor of the plant. The corn passes over another inspection belt on leaving the separator and falls by gravity into the Ayars filler on the main floor.

These 54-ounce cans are made of heavier gauge plate than other cans used for corn, although the tin coating is no heavier than on conventional cans. Because of their construction and plate used in manufacture, the cans are packed under high vacuum without paneling.

About five ounces of brine go into the can just before it is filled with corn. The filled cans are closed on the Canco vacuum closing machine under 25 inches of vacuum.

Cans leave the closing machine and are conveyed direct to the retort room adjacent to the main plant where each retort crate is filled with 366 cans. As stated previously, while the corn is being cooked, the reel within the retort revolves slowly to attain the end-over-end type of agitation processing.

At the conclusion of the cook, the cans are pressure cooled with air and water to prevent excessive straining of ends. Following this step, the cans are cooled under atmospheric pressure until they reach 95-100° F. They are then taken from the retort reels and cased, six to the case, ready for labeling and shipping.

The Streator Canning Co., in operation under Bill Benner's management since 1935, also packs asparagus, peas, pumpkin and regular cream-style corn in 303 and No. 10 can sizes. The company started packing the agitated-vacuum white whole kernel corn in 1947, and in 1953, about one-third of its total corn production was packed under this method.

## HUNGERFORD

*(Continued from page 36)*

quality control laboratory, in the kitchens of the National Canners Association, and in collaboration with outstanding chefs in the institutional field where this firm is an important supplier.

The genesis of the new label developed because Hungerford brought onto the market, in cooperation with Continental Can Co., its copyrighted Half-a-Ten size tin for onions; a package pre-designed to service the smaller hotel, the medium-sized restaurant and the roadside diner trade. In the case of the tin sizes for the mass-feeding trade, Hungerford provides "cost-per-service" information right on the label of the can itself, along with detailed steam-table instructions.

It is clearly apparent that Bill Free, when he accepted the chairmanship of a special committee to investigate means of popularizing canned foods for the National Canners Association, a program adopted unanimously by the National Board in Atlantic City in January with the implementation of a fund of $150,000 in the N. C. A. budget for trade and consumer relations and further supported by important 1954 advertising expenditure on the part of the can companies and other suppliers, also gave the "go ahead" signal to his own staff to proceed at top speed in seeing that Hungerford was in a position to help itself in the distributive markets.

# *Just Like "Going Out to Dinner!"*

There's nothing that's "ordinary" about ORLEANS DOG FOOD (All Horse Meat). It's something mighty, mighty special! Dogs go for it like we humans go for a fine meal at a famous restaurant.

The Orleans folks have used CROWN CANS for a good number of years. Crown Cans were chosen because their excellence-of-construction provides a dependable safeguard for the NEW, IMPROVED QUALITY of this hard-to-pack food . . . and because their cost enables Orleans to price their product reasonably.

Isn't it possible that teaming up *your* products and Crown Cans will help you develop or maintain similar leadership?

*Packed by*
*Orleans Canning Company,*
*Chicago 5, Ill.*

*One of America's Largest Can Manufacturers*

**CROWN CAN**
DIVISION
CROWN CORK & SEAL COMPANY, INC.

PHILADELPHIA • CHICAGO • ORLANDO • BALTIMORE • NEW YORK • BOSTON • ST. LOUIS

## STERILIZATION

*(Continued from page 38)*

head of the M.I.T. Department of Food Technology, brings commercial sterilization of food by radioactivity an important step nearer. The radioactive fission products to be used at M.I.T. are a waste product, presumably inexpensive, and they will be used under conditions which for the first time approximate those needed in commercial food production.

Professor Proctor will be assisted by Dr. Samuel A. Goldblith, assistant professor of food technology, in the research program which is under the sponsorship of the Atomic Energy Commission through its Division of Reactor Development. It is a continuation of work underway since 1950 in which radioactive cobalt has been used as a source of nuclear energy.

The new energy source now at M.I.T., equivalent in radiation intensity to several pounds of radium, was developed in the chemical engineering division of the Argonne National Laboratory. It is a small hollow cylindrical block of concrete which was prepared by mixing cement with the liquid radioactive fission products. The latter are the byproducts created when neutrons bombard uranium 235 in a nuclear reactor. The highly radioactive cement-fission product mixture is surrounded on all sides by several inches of ordinary concrete and a lead shield which is also several inches thick. This shield is necessary in order that experimenters using the source will not be exposed to the harmful radiation. An opening into the center of the source is provided so that materials to be irradiated may be lowered into the active region.

The source produces high-energy x-rays, technically known as gamma rays, very similar to those from the radioactive cobalt source which has already been studied at M.I.T. But radioactive cobalt is not available in large enough quantities to handle the output of any commercial food producer.

Rays from the new source, Dr. Goldblith says, have a lower average energy level, and the source has a shorter life than the cobalt which has been used before. "But this new source is the material which we will actually have for commercial purposes," says Dr. Goldblith, "so we must learn how to use it."

M.I.T.'s research will be devoted to measurements of the gamma rays produced by the new source, to determining their effects on various foods, and to learning how long the source can be used without renewal. Special automatic equipment to introduce three small-size food cans into the active region of the new source is now being built to M.I.T. specifications.

Dr. Stephen Lawroski, director of the chemical engineering division of the Argonne National Laboratory, said that the new source which uses the waste products of a nuclear reactor is regarded as a significant step forward in developing peacetime uses of atomic energy. He claimed three advantages for this type of source: (1) The radioactivity used is obtained as a by-product of reactor operations and as such is inexpensive; (2) it provides, in addition, an ideal method of using the highly radioactive waste products which present serious storage or disposal problems; and (3) it provides for experimental use a radiation source of the type and energy which must be used if large-scale food sterilization by irradiation proves to be feasible.

---

## USDA supports marketing orders on processing crops

Karl Loos, USDA Solicitor, stated during hearings on the Administration's farm program that canned foods should not be subject to marketing orders unless the canner agrees, but that marketing orders on canning crops are "almost essential" to the successful regulation of the same crops on the fresh market, according to the March 13, 1954, issue of the National Canners Association News Letter.

"If you have a marketing order for the fresh outlet, as there is on such things as citrus fruit and various other fruits and vegetables, and you attempt to regulate that, that tends to accumulate or increase the supply that goes into the can and you are in danger of getting a result in the canned or frozen products that will destroy any advantage of the marketing order on the fresh products," Mr. Loos said.

In hearings on the Aiken bill, S. 3052, Mr. Loos told the Senate Agriculture Committee that the purpose of the proposed amendment to the Agricultural Marketing Agreements Act is to allow producers of fruits and vegetables for processing, upon a two-thirds vote, "to enter into a marketing order program to limit either the quantity or quality of the fruits or vegetables that will go into the processing plants."

Senator Thye (Minn.) asked Mr. Loos who would pay for the administrative functions of the proposed controls program. The Solicitor acknowledged that the marketing orders would be financed through assessments on the handlers. Senator Thye then asked:

"Is this departing from a policy that has been in existence heretofore insofar as it relates to the canners? It seems to me that I have heard some arguments across this table in past years by the canners, and this seems to put some certain procedures into an administrative function here, or into the Act, that had never been there before."

Mr. Loos replied: "This subject has been up before, and on several occasions. The canners have uniformly opposed the inclusion of fruits and vegetables for canning. Heretofore some of those proposals have been to regulate under the marketing order not only fruits and vegetables as they went into the canning plant but also the product as it came out of the plant.

"There the canners have had, I believe a much stronger case against the regulation on the products as they come out of the plant than they have on the products as they go into the plant. This is particularly desirable in connection with those commodities of fruits and vegetables that have both a fresh market and a canned or frozen market."

Mr. Loos also told the Committee that the canners "passed a resolution at their Atlantic City convention recently opposing this change."

Senator Ellender (La.) asked if the net effect of the proposed marketing order amendment would be "to cause the fruit and other things to be canned to be sold high." The Solicitor agreed that "that is the objective, to get a higher price for the producer."

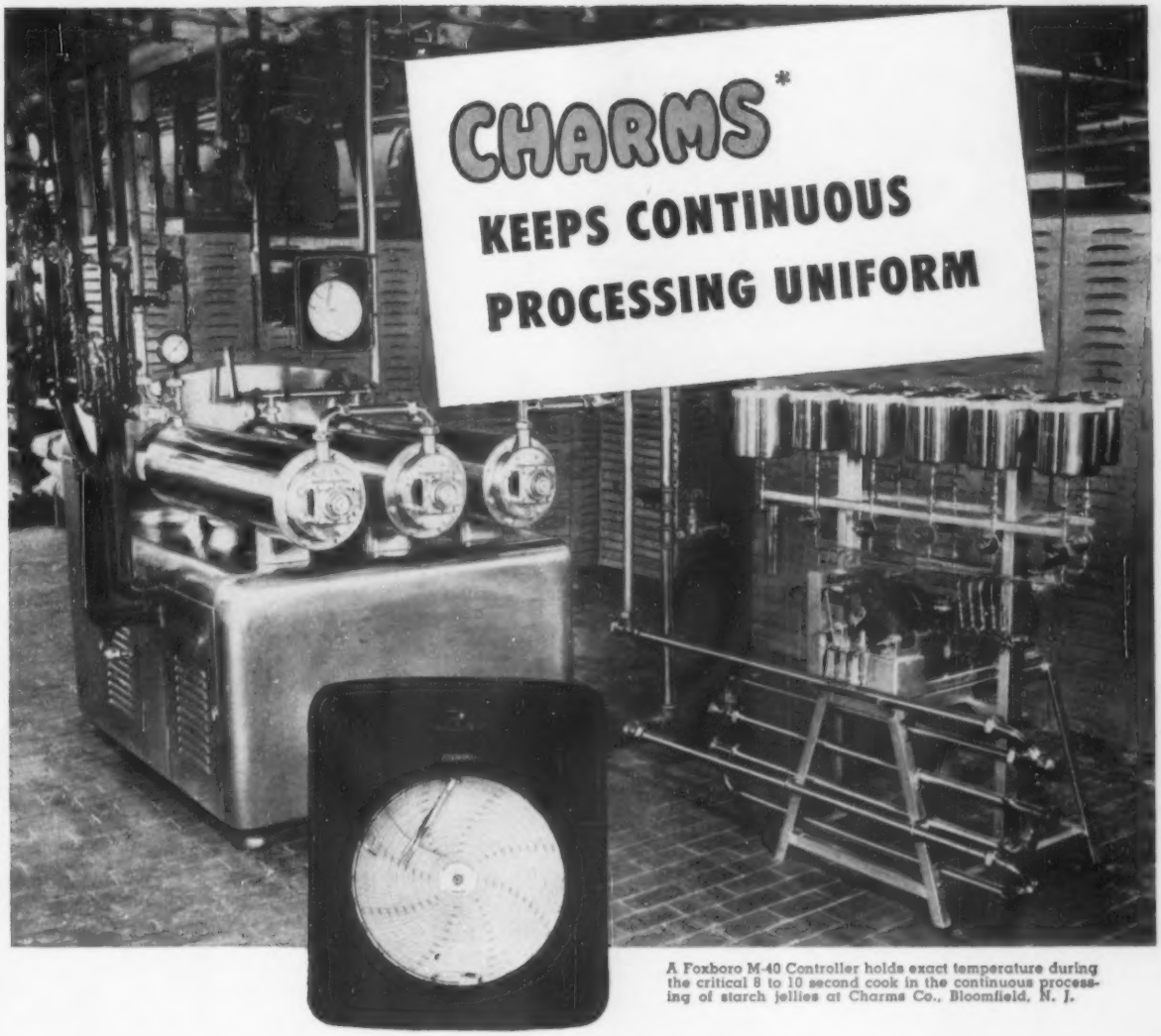
"And of course it would ultimately mean a higher price to the consumer?" Senator Ellender continued.

"Yes, sir, all of these marketing orders mean a higher price to the consumer to get a higher price for the producer," Mr. Loos responded.

The National Council of Farmer Cooperatives was represented at the hearings by Homer L. Brinkley, executive vice president. He said that his organization favors legislation authorizing the use of marketing orders and continuing and liberalizing the Marketing Agreements Act.

Allan B. Kline, president of the American Farm Bureau Federation, supported the Administration bill but expressed concern over the problem of "diverted acreage." He pointed out that in 1953 the planted acreage of "29 commercial vegetables" totaled 3,929,000 acres, and that "it doesn't take many diverted acres to make a terrific impact in the vegetable field." He proposed an amendment providing

*(Continued on page 63)*

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## Canner's Acreage

# Yield and quality of asparagus as affected by height of spear above ground at harvest*

**Fiber content at given distance from spear tip decreased rapidly with increasing height of spear above ground at harvest, according to Maryland results**

L. E. SCOTT and A. KRAMER
Department of Horticulture
University of Maryland

THE DEMAND FOR "GREEN" asparagus both by the fresh market and for the canned or frozen product has necessitated the use of only above-ground portions of the harvested asparagus spears. Usually the spears are cut one or more inches below the ground level before preparation for the fresh market or delivery to the processor. An exception to this procedure is the "field snapping" harvesting method as described by Barrons' in which the break is normally above the ground line. The present experiments were carried out to determine the effect of harvesting asparagus at different heights above ground on the yield and quality of the spears.

The data were obtained from a field of Mary Washington asparagus at the Plant Research Farm of the University of Maryland during the first three years of production of the planting, 1949 to 1951 inclusive. Plots consisted of single rows 100 feet long replicated nine times. The three treatments consisted of harvesting when the spears had attained heights of three, five, and eight inches above the ground level. Since these were minimum heights, the actual average height above ground, or "green" portion of the spear, was for each treatment about one inch in excess of these respective minimums. The treatments will be designated as the three-inch, five-inch, and eight-inch harvest hereafter. Spears were cut so that a length of 8½ inches was obtained. This required cutting of the three-inch treatment well below the ground level. All spears were trimmed to 8½ inches and total yield from each plot recorded at each harvest. The total number of spears from each treatment was obtained and the lots separated into grades based on spear diameter eight inches from the tip. In addition, sample lots were cut into segments and yield data obtained as shown in Table 1. In 1949 and 1951 samples from the several lots were obtained for fiber determination by the method of Kramer *et. al.*

*Scientific Paper No. A451. Contribution No. 2515 of the Maryland Agricultural Experiment Station. (Department of Horticulture).

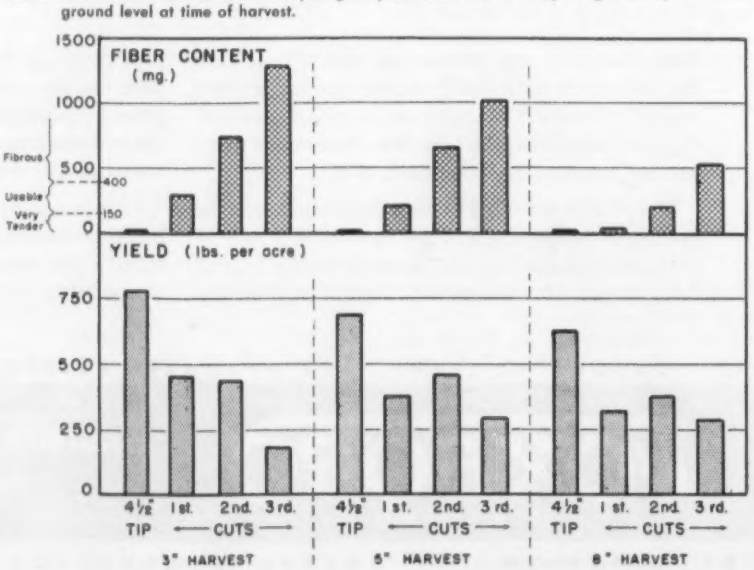
**Table 1.—Yield and size of asparagus spears as affected by the height of spears above ground at time of harvest.**

| | Harvesting treatment | | |
|---|---|---|---|
| | 3" Harvest | 5" Harvest | 8" Harvest |
| **Yield (lbs. per acre)** | | | |
| Less than ¾" diam. | 209 | 238 | 235 |
| ¾"–⅞" " | 644 | 603 | 616 |
| Greater than ⅞" " | 1006 | 963 | 772 |
| Total | 1859 | 1804 | 1623 |
| **Grade (% by wt.)** | | | |
| Less than ¾" diam. | 9.9 | 11.9 | 12.9 |
| ¾"–⅞" " | 35.3 | 34.0 | 38.9 |
| Greater than ⅞" " | 54.8 | 54.1 | 48.2 |
| **Grade (% by No.)** | | | |
| Less than ¾" diam. | 25.4 | 28.6 | 29.6 |
| ¾"–⅞" " | 41.1 | 39.0 | 41.4 |
| Greater than ⅞" " | 33.5 | 32.4 | 29.0 |
| **No. of spears per plant** | | | |
| Less than ¾" diam. | 2.1 | 2.3 | 2.3 |
| ¾"–⅞" " | 2.9 | 2.7 | 2.7 |
| Greater than ⅞" " | 2.4 | 2.2 | 1.9 |
| Total | 7.4 | 7.1 | 6.9 |
| **Yield by segments (lbs. per acre)** | | | |
| 4½" tip | 780.0 | 686.8 | 624.4 |
| 4½"–6" cut | 453.5 | 376.2 | 320.2 |
| 6" –7½" " | 430.1 | 450.2 | 379.7 |
| 7½"–8½" cut | 194.6 | 289.8 | 298.0 |
| **Yield of 4½" tips by grade** | | | |
| Less than ¾" diam. | 163.4 | 193.9 | 214.0 |
| ¾"–⅞" " | 356.4 | 340.2 | 328.5 |
| Greater than ⅞" " | 260.2 | 153.0 | 84.9 |
| **Grade size of 4½" tips (% by wt.)** | | | |
| Less than ¾" diam. | 18.8 | 25.6 | 30.4 |
| ¾"–⅞" " | 46.1 | 51.3 | 55.4 |
| Greater than ⅞" " | 35.1 | 23.1 | 14.2 |

### Results

Yield data for the three years' harvests are given in Table 1, calculated as annual mean yield in pounds per acre. The total yield decreased with increasing height of

FIG. 1—Yield and fiber content of asparagus spears as influenced by height of spear above ground level at time of harvest.



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the spear above ground with the difference most pronounced in the large-size spears. The total yield of the three-inch harvest would have been even higher had it been possible to cut all spears to the full 8½ inch length. The grade percentages of the spears both by number and weight clearly show the trend toward larger sized spears with decreasing height above ground. There was no significant difference among treatments in the number of spears produced per plant, although a tendency toward higher production per plant with decreasing height was evident each year. A factor concerning harvesting technique was very probably operative in affecting both number of spears and total yield of the treatments. In order to obtain the required eight-inch total length of spear from the three-inch harvest treatment, it was necessary to cut well below the ground level in many instances. In doing so, it is likely that more unemerged spears were injured than in the case of the five-inch and eight-inch harvests.

Division of the spears into longitudinal segments showed that the three-inch harvest produced substantially more of the 4½-inch tip and the 4½-6-inch cuts than the five-inch or eight-inch harvest; but less of the basal cut, 7½-8½-inch, due to the factor mentioned above. Since the 4½-inch tip is the most desirable portion of the spear from a quality standpoint, these tip cuts were broken down further into grades. These data obtained show even more strikingly the larger size of the spears from the three-inch harvest, which produced more than three times as much of the large size grade as was produced by the eight-inch harvest.

The distribution of fiber in the asparagus spear and the relation of fibrousness to organoleptic ratings have been shown.[2, 3] The amount of fiber in the spears harvested at different heights in the present experiment and the relation of fiber content to yield is shown in Figure 1. It is apparent that the fiber content at a given distance from the tip of the spear decreases rapidly with increasing height of the spear at time of harvest. For example the 4½-6-inch cut of the three-inch harvest had a fiber content of 288.2 mg. per 100 gr. fresh weight as compared with 34.2 mg. for the comparable cut of the eight-inch harvest. However, it is also evident that all "green," or above ground portions, are not free from fiber. The fiber content of the 6-7½-inch cut of the eight-inch harvest spears approaches a non-acceptable rating.

Correlations of fiber content with organoleptic ratings have suggested that fiber values below 150 mg. are associated with very tender or highly acceptable organoleptic ratings, values from 150 to 400 mg. give acceptable ratings, and values above 400 mg. are too fibrous for acceptability. On this basis only the 4½-inch tip cut of the three-inch and five-inch harvests are in the very tender class; while with the eight-inch harvest the 4½-6-inch segment is also included.

If the yields from the three harvest treatments are considered with regard to yield of acceptable quality asparagus (from the viewpoint of fibrousness) then the eight-inch harvest produced a greater yield of "acceptable" and "highly acceptable" asparagus than either of the other two treatments. More than 80 percent of the total yield from the eight-inch harvest would be classed as acceptable while only about 60 percent of the three-inch or five-inch harvest would be in this category. This higher percentage more than makes up for the smaller yield of the eight-inch harvest.

The principal results of the tests may be summarized as follows:

1. Harvesting asparagus at greater height above the ground level decreased the total yield of spears trimmed to 8½-inch length.
2. There was no difference in number of spears harvested in the three treatments.
3. Harvesting asparagus at lower height resulted in larger spears, in higher percentages of the larger grades, and in larger diameter and higher yield of 4½-inch tips.
4. Fiber content at a given distance from the tip of the spear decreased rapidly with increasing height of spear above ground at the time of harvest.


**Literature Cited**

1. Barrons, Keith C. The Field Snapping Method of Harvesting Asparagus. Michigan Agr. Exp. Sta. Quart. Bul. 28: 1-4. 1945.
2. Kramer, A., I. C. Haut, and L. E. Scott. Objective Methods for Measuring Quality Factors of Raw, Canned, and Frozen Asparagus. Proc. Amer. Soc. Hort. Sci. 53:-411-425. 1949.
3. Scott, L. E. and A. Kramer. Physiological Changes in Asparagus after Harvest. Proc. Amer. Soc. Hort. Sci. 54:357-366. 1949.


## Century of insect control

A new publication, "Fighting Our Insect Enemies," summarizing 100 years of research on curbing the destructive attack of insects on man's health, food, and shelter, and the application of this research for the benefit of agriculture and the general public, has been released by the Office of Information, USDA, Washington 25, D. C. Ask for AIB 121.

## Utah beauty new cherry pie champ

Beverley Jones (above), Ogden, Utah, became the 1954 National Cherry Pie Baking Champion in the 48-state contest held in Chicago recently by the National Red Cherry Institute. Miss Jones presented her prize pastry to Mrs. Patricia Nixon, wife of the vice-president of the U.S., in Washington on Washington's Birthday.

William B. Powell, executive secretary of the Institute, says this year's 22nd annual contest was the biggest in history, and that more girls competed throughout the country than in any previous event.

## New 49'er directory

The 1954 Forty-Niner directory, including business and personal information on 92 active members and one honorary member, has been compiled and mailed by 49'er President M. R. Feeney, vice-president of Lansing B. Warner, Inc., 4210 W. Peterson Ave, Chicago. Address requests for the directory to Mr. Feeney.

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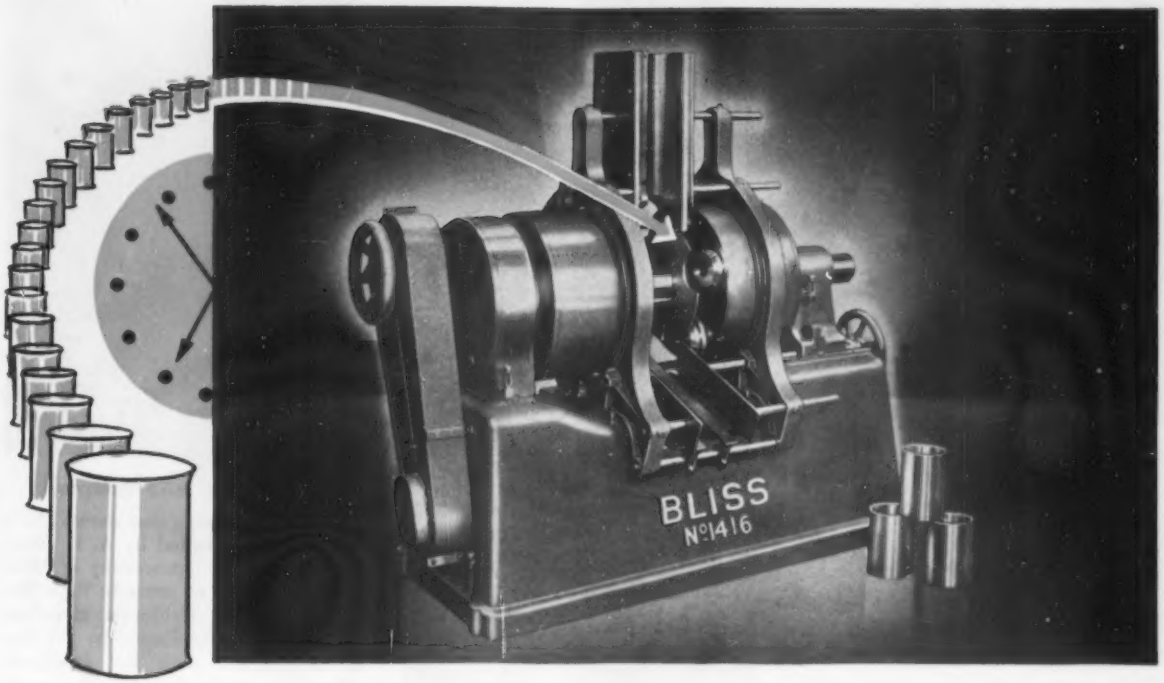


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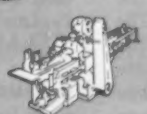
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# Freezing News

## Promotion • Selling • Research

### Introduce frozen fruit "family"

Frigid Food Products, Inc., Detroit, has introduced a "family" of frozen fruits packed in 10½-ounce round sanitary lithographed containers manufactured by American Can Co. The products include pineapple chunks, strawberries, red sour pitted cherries (20-ounce can), boysenberries, peaches, rhubarb, red raspberries and blueberries. Each can is lithographed in colors and designs that suggest the particular fruit packed.

### Promotion in works for frozen lemonade

The largest advertising program yet for the California Lemon Products Advisory Board is announced for the 1954 season by R. L. MacRae, the board's manager. Plans call for heavy magazine advertising from May through September, with four-color ads in six national magazines, as well as a special nationwide promotion in July. Network television during the summer will also advertise frozen lemonade.

### Campbell's frozen soups launched in East

Campbell Soup Co. has introduced four frozen soups on the market: oyster stew, cream of shrimp, chicken vegetable and green pea with ham. The soups, packed in the standard Campbell condensed soup cans, are mixed with equal amount of milk or water, heated and served. The cans hold 1¼ cups, to make 2½ cups of prepared soup—two or three servings.

At present only Philadelphia, Trenton and Wilmington areas will be serviced.

### Canned frozen shrimp debuts

Frozen shrimp is being packed in cans for the first time. John H. Dulany & Son, Fruitland, Md., has announced development of a canning process which offers the advantages of no dehydration, longer freezing life, and retention of flavor and freshness. Dulany claims that the cans, which are lithographed in four colors, provide easier storage and withstand treatment better than conventional packages.

### New foil containers

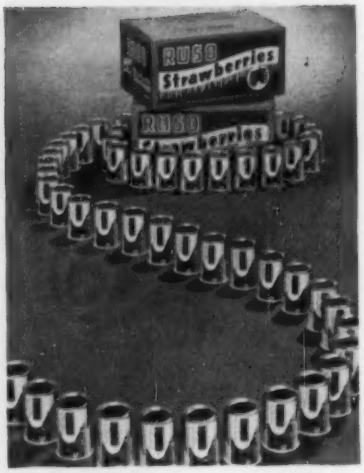
Aluminum foil plates in a variety of sizes and shapes are now available from Aluminum Container Corp., Los Angeles 21. Light in weight and easy to store, the "Foil-Tex" plates are excellent for freezing, heating and serving food without removing it from the container, according to the company.

### Frozen tuna pie hits market

Van Camp Sea Food Co. has added an eight-ounce frozen tuna pie, packed in an aluminum serving dish and six-color foil wrap, to its line of Chicken of the Sea products. The tuna pie will be promoted nationally, and consumer acceptance is encouraged by a 10 cent introductory coupon which applies to a repeat purchase.

### Snow Crop offers "bonus" with frozen orange juice purchase

A special offer of "Jinx Falkenburg" nylons, a regular $1.50 value, will be sent to consumers for half price—75 cents plus two can bottoms from Snow Crop frozen orange juice, the company announced recently. The six-week promotion was introduced at a Snow Crop management meeting in New York where television star Jinx Falkenburg and Teddy Snow Crop made personal appearances.




### New shipping case adopted

The new shipping case shown above was recently adopted by A. L. Ruso, Inc., frozen food processors of Watsonville, Calif., to promote their line of fresh-frozen California strawberries. The case, developed by the firm in conjunction with the Longview Fibre Co. of Oakland, Calif., is imprinted in solid reds and whites and provides ready product identification.

### Frozen orange juice served at Bing Crosby golf tournament

Pro golfer Art Bell (left), of Burlingame, Calif., and Bill Hoelle, San Francisco district manager for Minute Maid Corp., are served fresh frozen orange juice by Allene Coates, radio and TV actress who appeared as the Minute Maid girl for the Bing Crosby Minute Maid Corp., West Coast sales subsidiary of Minute Maid Corp., New York. The occasion was the Bing Crosby National Professional-Amateur Golf Championship held at Monterey Peninsula, Calif., in January.

More than 400 gallons of frozen orange juice were served to the pros and amateurs, and on several occasions to the public, during the three-day golf tourney.

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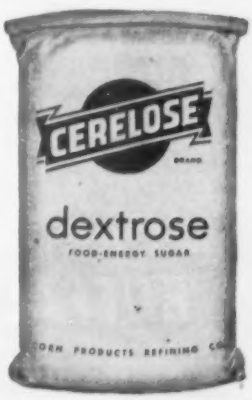


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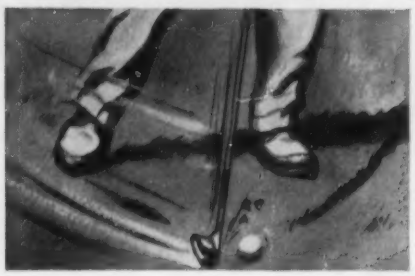

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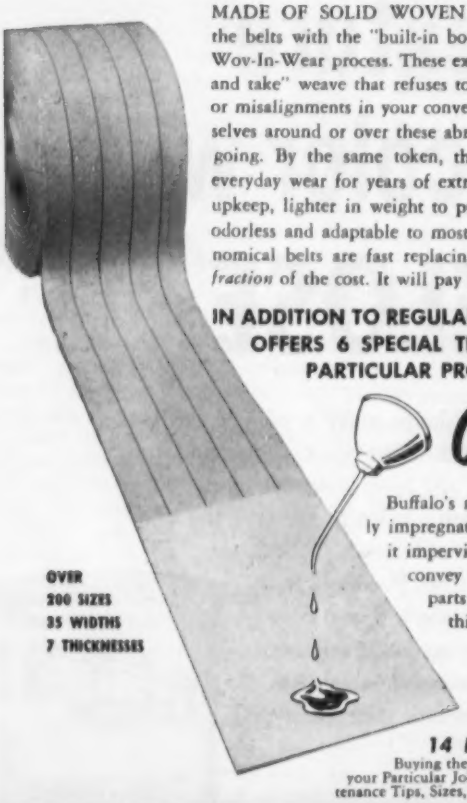

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## STRAWBERRY FREEZING

*(Continued from page 30)*

which contained some sucrose, those grown in Madrone had a relatively higher proportion of this sugar than those from Albany. Comparison of the colors of each variety from the two fields showed that those grown in Madrone were all one or two shades darker, either toward the gray or the purplish.

Table 5 summarizes the analytical data for the samples which had been frozen, stored for three months, and thawed. The pH values remained practically unchanged. The total titratable acidity was lower than it had originally been, mainly because of the presence of the added sugar (amounting to one-sixth of the total pack). The total sugar content was higher by just about the amount to be expected. All the samples became more liquid in consistency, which is a characteristic effect of both freezing and thawing, and sugar addition. The colors of all samples darkened. Banner and Tahoe darkened only one or two shades toward gray. Lassen, Shasta, and Sierra darkened toward gray and also took on a purplish hue.

Ascorbic acid determinations for storage retention could not be made because of an unexpected thaw which occurred in the storage locker just before the analyses were to be made. However, most of the literature seems to indicate a good retention (approximately 75 percent or higher) for the varieties tested.

### Summary


The five new California varieties of strawberries, Donner, Lassen, Shasta, Sierra, and Tahoe, grown in the North Coastal districts were tested for adaptability to freezing, and compared with the old standard variety, Banner (Marshall). While this study was going on field trials indicated that Lassen and Shasta were the only varieties likely to survive in commercial production.

Shasta and Lassen were found to have the lowest percentages of trimming losses and the highest proportions of large berries.

The results of taste testing revealed negligible or slight differences among the acceptabilities of the six varieties, so that no one or two varieties can be strongly recommended as being superior to the others in freezing adaptability. Certain minor constant differences which tended to balance out the overall results were observed and discussed.


*(Continued on next page)*

The best general method of preparation thus far tested was slicing and mixing with dry sugar in a 4+1 or 5+1 ratio.

Analytical results on pH, acidity, sugar contents, consistencies, color, and ascorbic acid brought out more clearly some of the observations made during the acceptability studies, but the data were not sufficient to enable correlations to be drawn between chemical characteristics and acceptability.


### Acknowledgments

**The authors wish to thank members of the following organizations for their kind cooperation and interest in the work:**

**(1) Members of the Division of Pomology for assistance in obtaining and appraising the berries; (2) Strawberry Research Institute (Dr. Harold Thomas) for assistance in collection of raw material; (3) Members and students of the Division of Food Technology who judged the frozen samples; (4) Colusa Circle Frozen Food Locker, Berkeley, for providing freezing and storage facilities.**

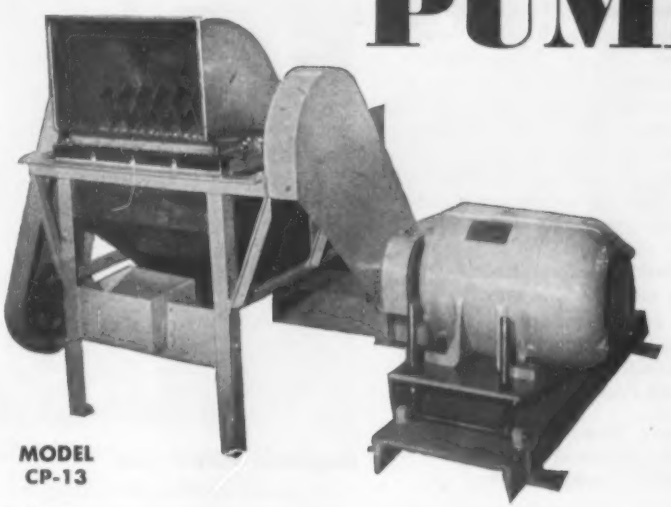

### LITERATURE CITED


1. Association of Official Agricultural Chemists. Methods of analysis. Sixth edition (1945).
2. Baker, Richard E., and Voth, Victor. Breeding and testing strawberry varieties. Calif. Agr. Expt. Sta. *Bul. 714.* (1949).
3. Bessey, O. A., and King, C. G. The distribution of vitamin C in plant and animal tissues and its determination. *J. Biol. Chem. 103,* 687 (1933).
4. Boggs, Mildred M., and Hanson, Helen L. Analysis of foods by sensory difference tests. Advances in Food Research 2, 220. (1949).
5. Ezell, Boyce D., Darrow, George M., Wilcox, Marguerite S., and Scott, D. H. Ascorbic acid content of strawberries. *Food Res. 12,* 510. (1947).
6. Hassid, W. Z. Determination of reducing sugars and sucrose in plant materials. *Ind. Eng. Chem. Anal. Ed. 8,* 138. (1936); *9,* 228. (1937).
7. Hohl, Leonora A. Strawberry freezing in California. *Quick Frozen Foods. 9* (11), 76. (1947).
8. Joslyn, M. A., and Hohl, Leonora A. The commercial freezing of fruit products. California Agr. Expt. Sta. *Bul. 703.* (1948).
9. Loeffler, H. J. Retention of Ascorbic acid in strawberries during processing, Frozen storage, and manufacture of Velva-fruit. *Food Res. 11* (1), 69. (1946).
10. Loeffler, H. J., and Ponting, J. D. Ascorbic acid, rapid determination in fresh, frozen, or dehydrated fruits and vegetables. *Ind. Eng. Chem., Anal. Ed. 14,* 846. (1942).
11. Maerz, A., and Paul, M. Rea. A dictionary of color. McGraw-Hill Book Co., New York. (1930).
12. Mayfield, Helen L., and Richardson, Jessie E. Ascorbic acid content of strawberries and their products. Montana Agr. Exp. Sta. *Bul. 412,* (1943).
13. Robinson, W. B., Lee, F. A., Slate, G. L., and Pederson, C. S. Chemical composition and freezing adaptability of strawberries. New York Agr. Exp. Sta. *Bul. 726.* (1947).
14. Scott, L. E., and Schrader, A. Lee. Ascorbic acid content of strawberry varieties before and after processing by freezing. *Proc. Am. Soc. Hort. Sci. 50,* 251. (1947).
15. Slate, G. L., and Robinson, W. B. Ascorbic acid content of strawberry varieties and selections at Geneva, New York. *Proc. Am. Soc. Hort. Sci. 47,* 219. (1946).
16. Thomas, H. E., and Goldsmith, E. V. The Shasta, Sierra, Lassen, Tahoe, and Donner strawberries. Calif. Agr. Exp. Sta. *Bul. 690.* (1945).



*Chisholm-Ryder Introduces An Improved Version of Its Famous*

# CHOPPER PUMP



MODEL CP-13

*We couldn't improve on the original principle of operation . . . but certain refinements have been added which make for more efficient operation and longer life. Among them are:*

1. **More sanitary construction that permits the pump to be readily opened for cleaning;**
2. **A stronger knife shaft with only two bearings insures easier operation;**
3. **The grate is removable and has individual bars, thus permitting quick replacement;**
4. **The tank is larger with a lower intake, designed to be fed directly from the inspection table without elevating it;**
5. **Rounded corners insure more sanitary conditions and make it easier to clean;**
6. **Easy to open for inspection and repairs. Send for Bulletin and prices.**

THE BEST OF Everything

**CHISHOLM-RYDER CO. INC.**

Niagara Falls, New York

FOR THE FOOD PROCESSOR

423

# Production Lines

## New methods • New research

### NPPA survey reveals pickle, container popularity

An overwhelming preference for gallon containers was disclosed by a recent general survey of pickle preferences in counter and fountain restaurants, the National Pickle Packers Assn. announced recently. Pickles in gallon containers were ordered by 79.4 percent, with the remaining 20.6 percent using No. 10's.

The survey also revealed the most popular types of pickles at counter and fountain restaurants in the following order: dill sweet, dill sour, pickle relish, gherkins sweet, kosher dills, dill chips and gherkins burr.

Many commercial pickle recipes being used throughout the country are available on request from the NPPA, Oak Park, Ill.

### Consumers like superconcentrated apple juice, says USDA

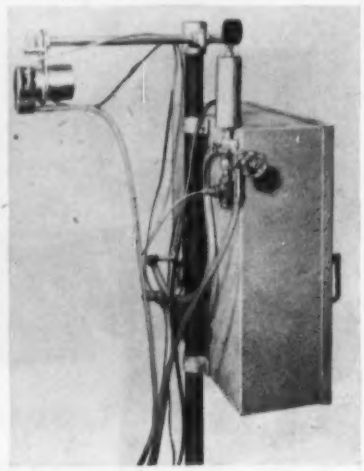
Consumers like apple juice made from a full-flavor "superconcentrate" better than bottled juice made in the conventional way from the same lot of apples, the U. S. Department of Agriculture announced recently. Department scientists, working in cooperation with a large food manufacturer, arranged for a test by volunteer tasters in two New York department stores and found that the tasters preferred the superconcentrate three to two.

The concentrate has all the aroma of the starting juice, the USDA said, and is diluted with six parts of cold water to make the drinking juice. Conventional frozen concentrates are diluted with three parts of water.

### Hot water treatment further explored

Safe limits for hot water treatment of certain diseased seeds have been determined by Cornell U. scientists at the New York State Agricultural Experiment Station, Geneva. Specifically of cucurbit seeds, the scientists report that the seeds can tolerate soaking in water at 50° C. (122° F.) for 70 minutes; at 55° C. the safe period is cut to 40 to 60 minutes. Seeds were injured within 10 minutes at 60° C. (140° F.), but older seeds may suffer greater injury than current crop seeds.

The scientists inferred that controlled hot water treatment should make it possible to eliminate internally borne disease organisms without serious injury to seeds.



### Dispenser adds Ac'cent

A special machine for adding Ac'cent (pure monosodium glutamate) to frozen foods on an assembly-line basis has been announced by the Amino Products Division of International Minerals & Chemical Corp., Chicago, makers of Ac'cent. The dispenser, which delivers controlled amounts of Ac'cent to foods during packaging, is said by the company to eliminate time formerly needed for measuring small quantities of the product.

Originally developed by Magnuson Engineers of San Jose, Calif., the dispenser was the result of an idea of Dr. B. F. Buchanen, Ac'cent technical service director.

### Ohio Experiment Station announces new tomato variety

Botanists at the Ohio Agricultural Experiment Station at Wooster announced recently that they have developed a new tomato variety resistant to fusarium wilt disease. Known as Ohio W-R Brookston, the tomato is a red-fruited type intended for processors and home gardeners.

Like Rutgers, the Brookston tomato is large, has a deep red color, and is exceptionally high yielding, according to Botanist L. J. Alexander. In one year at the station, yields were as high as 36 tons an acre or 25 percent higher than Rutgers, he said. Tests at the station last summer showed Brookston to be less affected than other varieties by dry, hot weather.

### Booklet aids isolation of orange juice bacteria

"A Rapid Method for the Presumptive Identification of Bacteria which have been associated with off-flavors and odors in Concentrated Orange Juice" presents a rapid segregation technique for the three genera *Lactobacillus, Leuconostoc* and *Acetobacter* isolated from off-flavored orange concentrate. This procedure is based on cell morphology, gram and catalase reactions, relation to oxygen, growth characteristics in sucrose-gelatin and, in the case of acetic acid bacteria, the qualitative determination of ethanol oxidation in media at pH 4.1.

The booklet, by J. M. Berry, J. F. Folinazzo and D. I. Murdock of the research division of Continental Can Co., New York 17, can be obtained from the company.

### Tree survey indicates trends in Pennsylvania

A fruit tree survey just completed by the Pennsylvania Department of Agriculture shows that, by U. S. Census, the number of apple trees in Pennsylvania dropped from 7,860,457 in 1929 to 3,513,190 in 1949. Peach trees decreased from 3,446,507 in 1929 to 2,204,816 in 1949. For the same period, the number of apple orchards dropped from 135,930 to 63,590 and peach orchards from 71,003 to 31,838.

The survey found 1,499 commercial apple orchards in the state, holding 1,510,562 trees. The 39 largest orchards in Pennsylvania account for 30 percent of all the state's apple trees. Fifty-five percent of the 1,499 commercial orchards had less than 500 trees each.

### Chart gives portion costs

Per serving costs for No. 10 cans of fruits and vegetables are itemized on a cost chart prepared for institution and commercial users, based upon 25 fixed per can costs. Requests for the chart should be sent to Durkee Famous Foods' Institutional Division, Cleveland 14.

### Superconcentrated juice has several advantages

Researchers of the USDA report that superconcentrated orange juice has numerous advantages over present concentrates. In addition to easier handling and less storage space, advantages the researchers recognize include: the higher concentrated juice settled out less quickly on standing; it did not expand upon cooling and cans could be more nearly filled than at present, and "flavor stability tended to increase with juice concentration."

## SPEED'S ---- NO GAMBLE

**with Burt boosting your production THROUGH THE HOME STRETCH!**

**BURT HIGH SPEED CASE PACKERS**
You can *depend* upon the fast, sure efficiency of this simplest can handling method available. Places two layers with each plunger stroke. Safe, automatic case dumping.

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**PACKERS & LABELERS** beat fleeting time!

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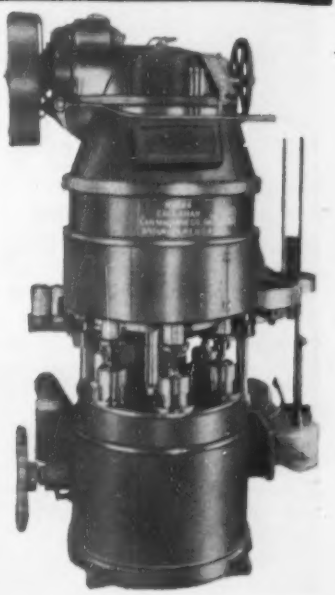
## CAN CLOSING MACHINE
**NO. 506**

6 head full automatic round can seamer.
300 per minute with can shop feed shown.
Also supplied with cannery feed.
Can sizes 2" to 4-3/16" diameter, 2" to 8" high.
4 roll type chucks.
New design chuck guard has interesting features.
No can, no end device.
Entire head and end feed adjustable for can heights eliminating the necessity of changing heights of conveyors and tables.
Automatic lubrication to principal working parts.



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***Specialists In Can Making Machinery***

*Callahan Can Machine Co., Inc.*
80 Richards Street Brooklyn 31, N. Y.

# The Market Place

## News of Promotion & Selling

### Dressings display to advantage in stylized bottles, bright labels

Pfeiffer's Food Products, Inc. of Buffalo, N. Y., is packaging its salad dressing line in six-ounce, eight-ounce and 16-ounce bottles. The Danish blue cheese dressing, latest addition to the line, is made with a blend of oils including olive oil, imported Danish blue cheese and sherry wine.

Bottles are by Brockway Glass Co., caps by Columbia Specialty Co., viscose bands by duPont and labels by Sales Lithograph.

### Peanut butter offered in reusable tumblers

Kimbell Food Products Co., Ft. Worth, Tex., is now offering its peanut butter in decorated, reusable tumblers, supplied by Owens-Illinois Glass Co., Toledo, Ohio. A choice of three colorful patterns will be available: two with a western motif, and one showing wild geese in flight. Closures are by White Cap Co., Chicago.

### "Strained fruit dessert" added to baby food line

Beech-Nut Packing Co., Canajoharie, N. Y., has introduced a new item to its line of strained baby foods. The product, Beech-Nut "strained fruit dessert" is a combination of apricot puree, pineapple juice and orange juice, with a tapioca base.

### Pack dressing in bottles

The Kansas City Wish-Bone Salad Dressing Co., Inc., of Kansas City, is now packaging its Italian salad dressing in 16-ounce bottles, manufactured by Brockway Glass Co. Caps are by Phoenix and labels by Fleming-Potter.

### Armour's four-pound ham suits small families

A new four-pound size pear-shaped canned ham is now being marketed by Armour and Co. Designed to meet the needs of the small family, the new size provides retailers with a fast-turnover canned ham at relatively low unit cost and is well suited for self-service display, according to Armour.

The four-pound ham rounds out the company's pear-shaped canned ham line and bridges the gap between Armour's miniature and large sizes.

### New foods promotion to include several media

Roselli Pure Foods, Inc., Merchantville, N. J., has planned an advertising campaign which has begun with displays in Philadelphia trolleys and New Jersey buses. Personal demonstrations also are being conducted in local stores by Miss Amasia Roselli. The advertising program will later include trade publications, newspapers and radio participation.

Featured in the campaign are two new Roselli items—noodles in mushroom sauce and macaroni and beans.

### Frozen fish packed in plastic

"Perfect product protection" for Sea Pass frozen fish fillets is assured through use of a plastic wrap, according to its manufacturer, Arvey Corp., Chicago. The overwrap, printed by multi-color process, is tough enough to withstand shipping and customer handling, and color is not affected by refrigeration, the company said.

### Paintings enhance salt ads

A series of four still life paintings of familiar foods that taste better with salt will be used to illustrate Morton Salt Co. advertisements in 1954, the company has announced. The pictures, showing grapefruit, tomatoes, melons and popcorn, will be offered to consumers, without any advertising imprint, for 25 cents a set.

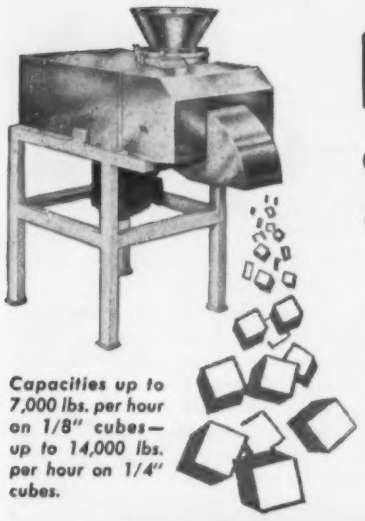
### "Just-for-Baby Week" has official seal

The official seal of National Baby Week—May 1-May 8—shows an eye-catching picture of the famous Gerber baby. Designed for eventual use as a centerpiece in store displays during National Baby Week, the seal also will be played up in magazine and newspaper advertising. Prints of the seal for grocery store promotion are available from Gerber's Baby Foods, Fremont, Mich.

Food lovers say "m-m-m-m"
when they see and taste

# PICKLE RELISH

CUT WITH THE URSCHEL MODEL "R" DICER



Capacities up to 7,000 lbs. per hour on 1/8" cubes—up to 14,000 lbs. per hour on 1/4" cubes.

Here's why:

- It produces crisp, uniform pieces that are **more appetizing!**
- It eliminates loss of pickle liquid due to product crushing—**all the juice is locked in!**
- Dices relish sizes from 1/16" x 1/8" x 1/8" to 1/8" x 1/4" x 1/4". Also other sizes up to 1/4" x 1/2" x 1/2" for special products.
- Unit needs less than 9 sq. ft. of floor space.

Get the full, profitable story, write today to:

PRECISION HIGH-SPEED FOOD CUTTING EQUIPMENT

**URSCHEL LABORATORIES INC.**
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# SPEAS

APPLE PRODUCTS
the Standard of Quality
for sixty years

NUTRL-JEL
for preserves, jams, jellies, marmalades

CONFECTO-JEL
for jellied candies

**Powdered *Apple* Pectin for PRESERVERS**

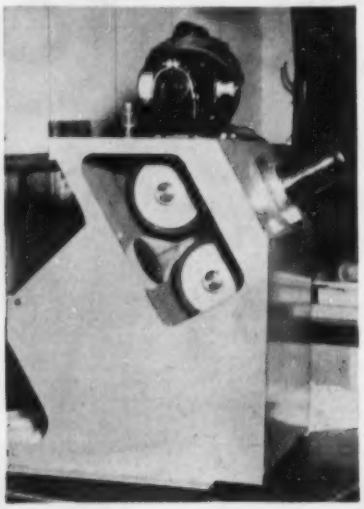
CONCENTRATED APPLE JUICE

*Plants in Apple Regions From the Atlantic to the Pacific*

SPEAS COMPANY, General Offices, Kansas City 1, Missouri

# What's new?

**Supplies • Equipment • Trade Literature**



### Pickle slicer features stationary knives

The Acorn pickle slicer which has been developed by Dowon Engineering Service, Inc., New York 22, utilizes interchangeable stationary knives. According to the manufacturer, conversion can be made in about one minute to equip the machine for any of seven stick sizes, and the machine handles any size pickles. As many as 2500 pickles an hour can be neatly handled by this slicer, the company said.

### Oil burner is versatile

The Cleaver-Brooks Co., Milwaukee, Wis., has designed an all-electric ignition oil burner, the "4" Hev-E-Oil Burner, which uses No. 4 or 5 oil without preheating. The "4" is completely wired, ready for service lines, and, according to the company, provides greater heating flexibility because of its large capacity.

### Sage Equipment Co. adds series to conveyor line

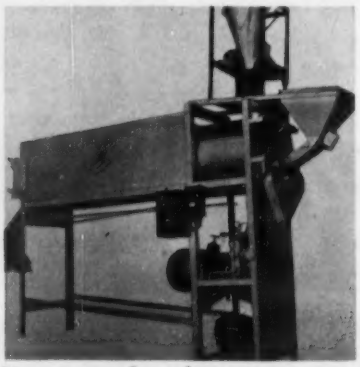
A series of power driven, wire mesh belt conveyors in a wide variety of lengths and widths has been added to its line of conveyors by the Sage Equipment Co. Both stationary and portable installations are available, the company reports.

Complete information and engineering service are available from Sage Equipment Co., 30 Essex St., Buffalo 13, N. Y.

### Redesigned line of electric motors announced by Louis-Allis

A redesigned line of electric motors to meet rating standards of the National Electrical Manufacturers' Assn. has been announced by the Louis Allis Co., Milwaukee 7, Wis. The new motors will be available in all standard enclosures and will be built up to frame size 326 (40 hp. at 3600 rpm).

Further details are available from the company.



### New type of seed treater announced

A chemical seed treater for the control of insects and disease has been made by the engineers of a large canning company in collaboration with engineers from an equipment manufacturer. This method of seed treatment corrects the old problem of lumpy, spotty coating which interfered with mechanical planting and did not give complete protection, according to the manufacturer.

A thin, uniform coat of powdered or liquid chemical can easily be applied to all seeds regardless of size or irregularity. Microscopic examination of treated seed shows a complete thin coat of chemical protectant which repels insects and fungus.

Complete information may be obtained from the O. W. Kromer Co., Minneapolis 11, Minn.

### Packer Machinery Corp. improves pneumatic vacuum filler

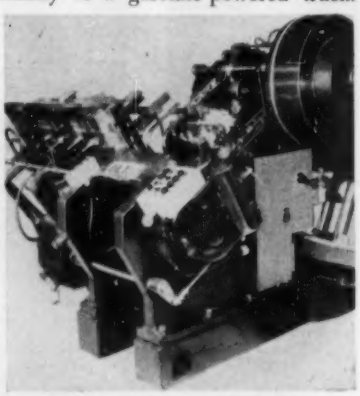
Packer Machinery Corp. has improved its push-button controlled pneumatic vacuum filler so that the machine may at any time be converted to manual operation.

Further information is available from Packer Machinery Corp., 30 Irving Pl., New York 3, N. Y.

### Clark improves towing tractor

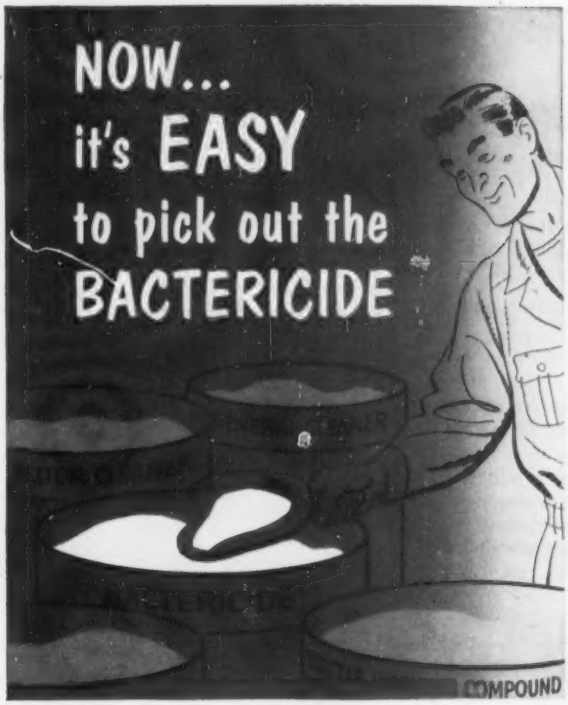
New features which provide greater driving safety, comfort and simplicity have been incorporated in the redesigned "Clarkette 5" line of general utility towing tractors, according to the manufacturer, Clark Equipment Co., Battle Creek, Mich. Among these features are: longer driver platform, alteration of control lever to reduce hand fatigue, and relocation of the exhaust pipe to minimize fumes reaching the operator.

Clark also reported that conversion of a gasoline-powered fork truck to LPG (liquified petroleum gas) operation solved the problem of exhaust-fume air contamination at the Glendale, L. I., warehouse of Gerber Products, Inc. In addition, according to Gerber's warehouse superintendent, the LPG-powered machine requires less servicing and operates as efficiently as a gasoline-powered truck.



### Bliss Co. develops automatic strip feed press

An automatic strip feed press developed by the E. W. Bliss Co. was exhibited for the first time at the NCA convention. The press, used to produce sanitary can ends and closures, was designed for high-speed operation. In test runs at the Bliss plant in Hastings, Mich., it has operated satisfactorily at speeds beyond 300 strokes per minute—almost twice as fast as the previous Bliss design.

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## its PINK* color helps you prevent costly mistakes

DIVERSOL CX can't be mistaken for detergents, processing chemicals or anything but what it is . . . *the best bactericide-disinfectant* you can buy. DIVERSOL CX is PINK in color for easy identification. And, of course, it gives you the *100% solubility, stability, water-softening action and powerful penetrating ability* that DIVERSOL has been noted for during the past quarter century. So *play safe* . . . when your operations call for a bactericide, be *sure* your men *use* a bactericide. Get DIVERSOL CX today!

- **NON-CORROSIVE**
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**THE DIVERSEY CORPORATION**
**1820 ROSCOE STREET, CHICAGO 13, ILLINOIS**
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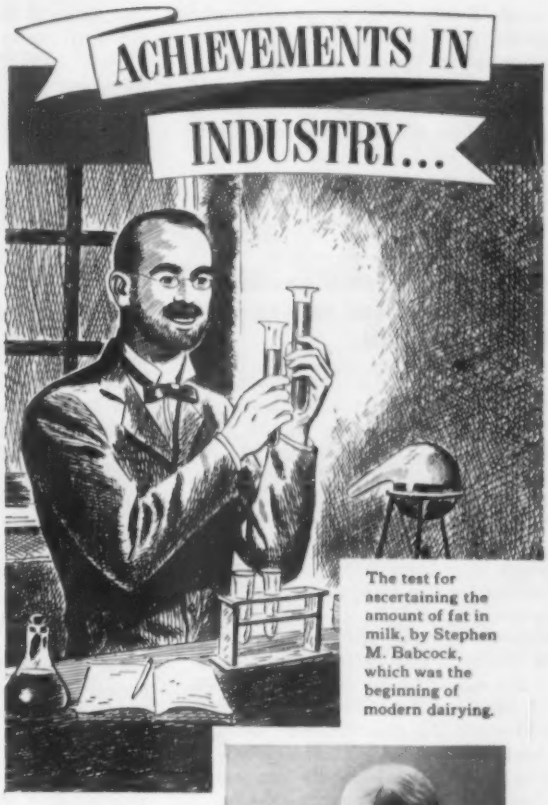


The test for ascertaining the amount of fat in milk, by Stephen M. Babcock, which was the beginning of modern dairying.

The Alberger System of processing quality salt for industry, by J. L. Alberger, developed for Diamond Crystal Salt.

For over 50 years, Diamond Crystal Alberger Process Salt has been famous for its true salty flavor and better seasoning quality.

The exclusive Alberger System produces salt with a consistent purity of 99.95%—a salt that surpasses every requirement of the U. S. Pharmacopoeia. In addition, the Alberger Process makes available carefully screened salts of uniform bulk to industrial users of salt who require a definite grain size.

That's why thousands of food manufacturers who demand dependable salt of uniform purity, bulk and quality use this salt exclusively.

If you have any questions about which grain size or grade to use for best results, get expert advice by writing to our Technical Director.

**DIAMOND CRYSTAL ALBERGER PROCESS SALT**
**Diamond Crystal Salt Co., St. Clair, Michigan - Akron, Ohio**

ward "Ready to Serve" products and prove that packaging is even more important in the sale of Chinese foods than ever before. The housewife wants a quick change of menu that is both an economical and a tasty one-dish meal. La Choy is fully prepared to meet this increased demand with its "ready to heat and eat" prepared chop sueys.

## Canco starts new research & development center in Barrington, Ill.

American Can Co. has started construction of its new research and development center on a 40-acre tract in Barrington, Ill., northwest of Chicago. The new scientific laboratory, with improved and larger facilities, will make possible greater service to the container-using industries, and plans have been made for future expansion as the company's growth requires it, stated Dr. Roger H. Lueck, Canco's general manager in charge of research and development.

It's estimated by the company that 12 months will be needed to complete and equip the new building. Head of the new Barrington laboratory will be Dr. Robert W. Pilcher, the company's director of research.

four sides of the cartons. Labor costs are high today, so today's modern, low-cost warehousing operations demand speedy selection of merchandise. It is estimated the new La Choy cartons versus cartons stenciled on one side only will cut down warehouse selection time by almost 50 percent. The distributors, retailers and consumers' viewpoint are ever utmost in La Choy's planning and all changes are made with this in mind.

The special mold bottle for La Choy Soy Sauce has been replaced by a new streamlined-rib mold by Owens-Illinois Glass Co., Toledo, Ohio. The new bottle is more distinctive looking as well as having more label area and is in keeping with the newly designed labels for the canned products. Both the three-ounce and five-ounce sizes of La Choy soy sauce contain a polyethylene plastic insert which acts as a "no drip" dispenser top when the bottle is in use. The outer red plastic cap is new and colorful to catch the housewife's eye and is stimulating impulse buying. It permits easier and clearer retail price marking, too. The new red cap is another Owens-Illinois innovation.

La Choy's rapidly increasing sales indicate that the trend today is to-

## LA CHOY

*(Continued from page 36)*

products. La Choy is the only Chinese food manufacturer with continuous government inspection of all products.

The trade has enthusiastically received the entirely new sizes, labels, bottles, dinner cartons, and lower prices. Customers and representatives alike have applauded the company's progressive change-over as being timely and in step with the trend toward more intelligent product information on the labels. There is a recipe on every label. The ready to heat and eat, quick-fix, chop sueys give menu suggestions as well as information on how to serve for variety.

The prepared chop suey is also available in the complete dinner cartons which contain a can of either meatless, beef or chicken chop suey, a bottle of soy sauce, and a can of chow mein noodles. The dinner cartons were designed and manufactured by Sutherland Paper Co., Kalamazoo, Mich.

Other packaging design changes of La Choy include new corrugated shipping cartons which give very complete product information on all


GET THE FACTS ABOUT the *Robins* THERMOTIC

**STEAM BLANCHER**

**for Mushrooms, Fruit, Vegetables**

Write today for literature that describes all the advanced features of this outstanding performer. It's designed to eliminate guess-work completely—gives you complete, easy control of process, reduces shrinkage, permits more uniform blanching, gives you better quality and color.

**See your Robins representative or wire, call or write direct.**

*A.K.Robins* AND COMPANY, INC.

*Manufacturers of Food Processing Machinery Since 1855*

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# CUT SEASONING COSTS

# 20% to 40%

**MAGNA spice concentrols** — scientific formulations of spice essential oils and oleoresins . . . the most concentrated flavoring materials available.

*advantages:*

- 100% pure, natural products obtained by distillation or extraction from *actual* leaves, herbs, roots, buds or berries.
- Contain no diluents or inert materials of any kind.
- More economical because they are more concentrated, yet readily diluted in your own plant.

Write for your copy of "Questions and Answers" for the food processor. Learn how the development of Magna Spice Concentrols has modernized the seasoning of food products . . . and cut seasoning costs.

MAGNUS, MABEE & REYNARD, INC.

*Since 1895 • One of the world's greatest suppliers of essential oils*

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**HERE'S HOW**

# Fortified Wood

**has changed the purchasing habits of box buyers**

For years the high replacement and repair cost of field boxes, hampers, field pallets and viner canvas was an accepted expense. It is a different story today — thanks to CELLU-SAN, the first and only non-toxic wood preservative and water repellent developed expressly for the food industry. In a simple 3-second dip operation, ordinary wood becomes *fortified* wood — fortified against the ravages of heat, rain, dampness and rough handling.

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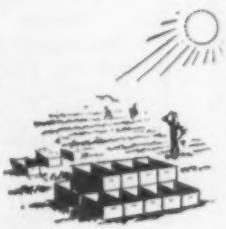

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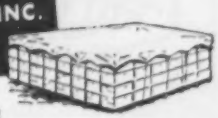

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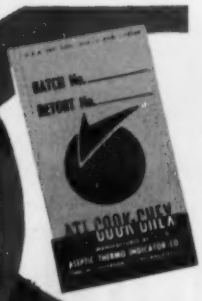


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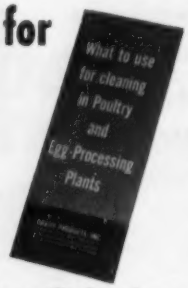


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## KERR

*(Continued from page 20)*

This policy—or should we call it a passion?—for exact knowledge and practice seems to be a rising factor in American business life. Today this page sat in at a conference that had no direct relationship with food or with nutritional measurements. And yet these two fields were much alike in matters of standards. The discussion we listened to was about automobile manufacture and a new type of machine tool. These tools are so exact in their measurements that their design and standards of manufacture can be determined and passed upon satisfactorily only by the Bureau of Standards; and the tools can't be guided by fallible and uncertain human hands. They *have* to be automatic. Our informant said that while little information has been printed about it as yet, American factory production is at the beginning of a new industrial revolution; one centering about this new idea of exactly designed and built machine tools. Our industry of course is different in technique and detail. But who is going to say that food processing isn't following along the path of precision?

### Farmers "see red"

Our farm neighbors are making out; they are feeling a thought sober these days, and in part this sober feeling stems from certain statistics released by their own Department of Agriculture. It seems that the total net income of Uncle Sam's farm families, figuring in the inventory changes that developed during the two years, was two billion dollars, or 14 percent, lower in 1953 than in 1952.

The New York Journal of Commerce says that with cash costs taking a larger proportion of farm income, "farmers retained as net income in 1953 only 36.5 percent of their realized gross farm income; the smallest percentage for any year since 1932." These figures are possibly not as bad as they appear at first glance; but they're not exactly reassuring. If you add non-farm income to the farm population's take, the total earnings from all sources in 1953 amounted to 20½ billions; nine percent less than in 1952. Non-farm income in 1953 amounted to $259,099,000,000; or eight percent more than in 1952.

The agriculturalists say, soberly but not too unhappily, that they're making out. But they don't think these are red letter days.

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incentives to farmers to put diverted acres into soil-building crops.

The Farm Bureau also said that the proposal to bring canning crops under marketing orders is consistent with its policies. Mr. Kline recommended that the bill be amended to provide "for the inclusion of processors with producers on the administrative committees for any marketing agreement or order program covering fruits and vegetables for processing."

While hearings on the Aiken bill continued before the Senate Agriculture Committee, the House Agriculture Committee opened hearings March 10 on the Administration farm program.

## "Reference date" helpful in thinning peaches

The general use of a "reference date" for thinning decisions and harvest predictions by canning-peach producers is confirmed by University of California research, just completed.

Recommended procedure for establishing the "reference date" with greater accuracy has been evolved by Luther D. Davis, professor of pomology on the Davis campus of the University.

Reporting on the method to horticultural scientists, Davis explained that an ideal reference date will show clearly the nature of the thinning problem, and also predict harvest date more accurately than other methods. It should therefore precede thinning; it should occur during a period when fruit growth is slow, so that deviation from selected date will give minimum deviation in fruit size; and establishing the date should be easy.

A sharp knife is the only equipment needed. Pit hardening is determined by cutting successive thin cross-sections from the end of the fruit opposite the stem. If 75 to 80 percent of a random sample of fruits gives a clear feeling of resistance when the knife encounters the pit before cutting on through, the "tip change" date is established. If a razor blade is used, the date established is, says Davis, one or two days earlier.

"For all canning varieties," he summed up, "the arbitrary selection of a reference date ten days after pit hardening gives us a date that is three to five days inside the period of slowest fruit growth.

"At that time we can know certainly the nature of the thinning problem, and we can calculate harvest date much more surely than by using the date of full bloom."


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## How they got there

Carroll Griffith

### *He was a "victim of chance" more than thirty-five years ago*

IT'S TRUE THAT CHANCE often determines destiny not only of the primary person affected, but also of many others. So it was with Carroll Ladd Griffith, president of The Griffith Laboratories, Inc.

Born in Chicago in the last decade of the nineteenth century, he almost became a farmer instead of an outstanding industrialist and food technologist. Soon after he was graduated from high school, his father sent him to western Canada to manage extensive wheat farming operations there. After spending two successful years in Canada, he returned to the U.S., intending to study agriculture in a university. However, an old family friend, a doctor, called to the attention of Carroll Griffith's father that a promising future in the field of pharmaceutical manufacture awaited the youngster.

Taking his savings and some from his father, Carroll purchased a substantial interest in the Charles J. Pattison Company. Now that he had set his course, he attended Northwestern University's school of pharmacy as a part-day and part-night student, and was graduated with honors in 1915. His pharmaceutical career was strengthened during World War I when he served in the U.S. Army Medical Corps.

The Pattison Company manufactured many pharmaceutical products marketed through doctors as well as through drug jobbers. In that business many rare herbs and botanicals were used to make elixirs; even certain types of spices were needed for certain compounds. Consequently, he acquired an early basic knowledge of their qualities which was to stand him in good stead in later years. His training in the pharmaceutical field taught him the importance of accurate compounding—a quality which has been carried over to his company.

In the meantime, Enoch L. Griffith, Carroll's father, who for years had been active in the food industry, decided to establish a new company. When Carroll left the army in 1919, The Griffith Laboratories, Inc., was founded. The company was started on two premises: (1) to give service to food processors, regardless of size; and (2) to share knowledge scientifically acquired by the young company with all customers without charge.

At that time such ideas were somewhat revolutionary since there was a great deal of secrecy surrounding food processing methods in general and in the meat packing and sausage manufacturing processes in particular. But from the very beginning The Griffith Laboratories has served the many food industries with products scientifically developed and manufactured to their specific requirement.

Griffith's was the first company not engaged in marketing finished food products to install a modern experimental canning and food processing kitchen, other than the can companies. In the years since these facilities were established, many products have been developed and the manufacturing formulae turned over to industry without charge. Commercially successful products have been such items as lima beans and ham, spaghetti sauce and meatballs, ham and chicken a la king. Any product requiring improvement of taste, flavor, or eye appeal is considered worthy for study by Griffith's technologists. Visitors to the Chicago plant will frequently find Carroll Griffith checking developments and research not only in the experimental facilities but in the laboratory as well.

Under the capable management of Mr. Griffith and his associates, the company prospered and gained a reputation for giving prompt and efficient service as well as for manufacturing and selling high-quality products. Moreover, the company has made many outstanding contributions to methods and procedures used by food manufacturers. One example was the introduction of arterial pumping in ham curing, whereby the time of cure was reduced to a matter of days instead of months, as was previously required. The company also developed specialized equipment to handle this curing process.

Another was the development of meat curing compounds such as the now well-known Prague powder, used as a standard product throughout the world. Still others were the invention of a method to destroy bacterial contamination in food products while avoiding heat-induced alteration of their qualities; invention of improved methods to extract flavors from spices for commercial flavoring purposes; and invention of antioxidants to preserve fats while stored outside of refrigeration.

Carroll Griffith was the first secretary-treasurer of his father's company and in that capacity he was responsible for handling the financial affairs. As the company struggled in its early days, Carroll frequently had to delay drawing his own salary in order to meet company obligations on time. But he handled this phase wisely as is attested by the excellent credit rating the company now enjoys. The Griffith name is widely known to food processors throughout the world. Interests are now represented in Canada by The Griffith Laboratories, Ltd., established in 1929, and in Latin America by Griffith Laboratories S.A., established in 1947. Recently the company built a manufacturing plant in Brazil.

C. L., as he is frequently called, has always been a great believer in teamwork and has encouraged, through wise leadership, development of the men and women on the Griffith team. Formalities and titles of office mean nothing to him.

Carroll is a family man and budgets his busy career so that he has time to "live" and enjoy his horticultural hobbies at his summer home at Lake Geneva. He married Sylvia Meier in 1922. Their two children, both graduates of Northwestern University, now have families of their own.

He is active in many philanthropies such as the Y.M.C.A., various educational institutions, and in the Trinity Methodist Church near his Beverly Hills home in south Chicago.

Carroll Griffith would have made a successful farmer because he's the type of man that would have achieved fame in whatever field he entered. Yet those in the food industry who have benefited from his advice and guidance are thankful for the decision he made more than 35 years ago.

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# Food Packer

**Canning Glasspacking Freezing**

*Mid-Month*

**NEWS LETTER**

April 15, 1954


**Frozen canned soups are rapidly taking their place in frozen-food cabinets in many localities. Campbell Soup Co.** currently is test-marketing in Philadelphia area four kinds: green pea with ham, cream of shrimp, oyster stew, and chicken vegetable. These are frozen in 10-1/2-ounce cans; for preparation, an equal amount of water is added. **Standard Foods, Inc.,** Louisville, Ky., makes three soups for restaurant trade: vegetable, bean, and chicken. Containers hold four pounds and make a gallon of soup when equal amount of water is added. **Beaver Brand Frozen Foods, Inc.,** NYC, markets frozen clam chowder in 12-oz. size. This company also packs a fish chowder in a paper container. **Chin & Lee Co.** and **Golden Food Products,** both of NYC, are packing fish and Chinese varieties. Brooklyn's **Temple Frosted Foods** freezes won ton and chicken egg drop soups and also a chicken noodle soup; six weeks ago it started selling a tomato egg drop soup; other kinds will be forthcoming.

**What's the reason for ever-increasing popularity of frozen** canned soups? A **Campbell Soup** spokesman says that freezing will produce a better product than usual preservation methods, retaining more of the original freshness of flavor and appearance. He mentions the fresh sea flavor of shrimp and oysters and the fine green color of the pea. The company says that sales of its frozen soups thus far "have been gratifying." **President J. A. Thomas** of **Golden Palace Food Products** says that when you freeze it, you don't have to add a preservative which would spoil the taste of Chinese soups. A chowder packer states that freezing enhances the fresh flavor of the clams. Sales of frozen canned soups in widespread areas indicate that the products are "catching on" with consumers.

**Labor disputes with the AFL teamsters union may slow** down operations at **Fairmont Canning Co.** this season. **C. L. Meister,** vp of this Fairmont, Minn., concern says the company is not making any contracts for 1954 crops because its agreement with Local 478 expired Feb. 28 and negotiations since have not brought forth a new contract. Time is rapidly running out for writing 1954 contracts with growers. **Fairmont Canning** has two plants in Fairmont and a third in nearby Winnebago.

**Plans for the National Canners Association's meeting of** board of directors in Washington, May 20 and 21, are shaping up. Representative **Clifford R. Hope** (Kansas), chairman of the **House Committee on Agriculture,** will be guest speaker at Thursday, May 20, luncheon at Statler Hotel, NCA president **E. E. Willkie** announces. **Rep. Hope** will speak on the status of farm legislation. The May meeting will bring together the NCA board of directors and the administrative council.

**New officers of Canners League of California are: President, John E. Dodds, Schuckl & Co., Inc.,** Sunnyvale; vice-president, **D. E. Martinelli, Lake County Cannery, Inc.,** Upper Lake; executive vice-president (re-elected), **M. A. Clevenger,** San Francisco; secretary-treasurer, **R. J. Marsh,** San Francisco; and assistant secretary, **E. B. Murphy,** San Francisco.

*The Seafood Scanner,* **new publication, is being issued by** the **Northwest Branch** of the **National Canners Association.** Bulletin is designed to assist members in attaining higher quality packs of fishery products. Requests to be placed on mailing list should go to: Dr. **E. D. Clark, Northwest Branch of NCA,** 826 Skinner Bldg., Seattle 1, Wash.

**Increased participation by other members of food industry in National Pickle Week** promotions, May 20-29, was announced by **National Pickle Packers Assn.** NPPA president, **Edward S. Guggenheimer,** said that major cheese, spread, and meat processors will coordinate advertising and promotional plans to tie in with powerful sales appeal of National Pickle Week. "Pickle Week is the starting gun in a promotion that we think will increase pickle and related item sales at retailer level from late May thru June. When America starts thinking of outdoor meals and weekend trips, it's logical to support the natural demand for high-profit pickles and other picnic foods," **Guggenheimer** said.

**Contract rates to tomato growers have been cut by four** major canners in the South Jersey area. **Calpak,** Swedesboro, will pay $30.50 for "acceptable fruit" instead of 1953 price of $32. **Hunt Foods,** Bridgeton, will pay $30 this year on same basis. **Campbell Soup Co.,** Camden, has reduced its payment to $37 for No. 1 tomatoes and $26 for No. 2 tomatoes, at the loading station, compared with $36 and $23, respectively, paid last year. **P. J. Ritter Co.,** Bridgeton, N. J., has cut prices from $38 for No. 1 and $23 for No. 2 tomatoes delivered at the plant last year to $36 for No. 1 and $21 for No. 2 tomatoes this year.

**Financial News: Sales of Chas. Pfizer & Co., Inc., NYC,** rose 18%, from $107 million in 1952 to $127 million in 1953, and earnings increased from $2.17 to $2.73 a share; sales were highest in firm's history. Final consolidated earnings of **Robert Gair Co., Inc.,** NYC, show consolidated net income of $6,451,541, or $2.96 a common share in 1953. This compares with $5,800,122, or $2.79 a share in 1952—on average shares outstanding during year, and after dividends on preferred stock prior to its retirement in 1952. Net sales for 1953 were $117,297,000, as compared with $107,571,000, in 1952, increase of $9,726,000. **Anchor Hocking Glass Corp.'s** net sales jumped to $107,100,979 in 1953 compared with $97,216,762 for 1952. Net income was ('53) $4,369,874; ('52) $4,008,041. **Owens Illinois Glass Co.** had highest sales in history in 1953—$333,024,055, compared with $293,181,500 in 1952. Net earnings increased from ('52) $16,200,800 to ('53) $16,267,400. Sales of closure and plastic articles showed a marked increase over 1952, Chairman of the Board **J. P. Lewis** disclosed. **Minneapolis-Honeywell's** sales increased 29% in 1953 (to $214,018,825) to pass the $200 million mark for the first time in company's history. Sales were $165,710,384 in 1952. Earnings before taxes were up $8,082,822 over previous year to a total of $28,687,825, an increase of 39%. **National Can Corp.'s** net sales hit a new record of $39,673,312 **Robert S. Solinsky,** president, reports. Sales in '52 were $30,473,182. Earnings after federal income taxes were $1,204,849, equal to $1.41 per common share. This compares to a net loss of $1,474,865 in 1952.

**Pack of canned baby food during calendar year 1953 totaled** 156,419,966 dozens, compared with 134,087,486 dozens for 1952, according to the **NCA div. of statistics.** U. S. total (1953) for strained baby food, tin pack (202 x 214) was 43,499,262 dozens; glass pack (4-1/4 oz.. 5 oz.; 8 oz.), 74,175,688 dozens. Chopped or junior foods (1953), tin pack (202 x 214 and 211 x 210), 15,663,698 dozens; glass pack (same sizes as above), 23,081,329 dozens.

**Glass-container production for food (narrow neck) was 12,**542,704 gross in 1953—a new high. Compares with 11,917,548 gross in '52, and 11,528,180 gross in '51. Production of wide-mouth containers for food also made a record in '53—31,664,175 gross. Compares with 28,887,878 gross in '52, and

26,841,327 gross in '51. Data above include production of fruit jars and jelly glasses. Source: **U. S. Dept of Commerce.**

**Food-can shipments in 1953 amounted to 2.6 million tons,** about two-thirds of the total shipment of cans. Monthly shipments of food cans during '53 reached a peak of 361 thousand tons in August. In 1953, shipments of fruit & vegetable cans accounted for 53% of all food cans shipped during the year and, at 144 million tons, were 3% above the '52 total. Monthly shipments of this type of can ranged from a low of 55 thousand tons in March to a high of 225 thousand tons in August. Source: **U. S. Dept of Commerce.**

**Commercial closures. Shipments of metal & plastic caps in** Jan. '54 amounted to 1,150 million units, 9% above Dec. shipments and 7% above Jan. shipments, **Dept. of Commerce** reports. Shipments of crowns in January, at 21.4 million gross, were 12% below Dec. shipments, but 27% above Jan. '53 shipments.

**Birds Eye, expecting highest sales of frozen foods in history** in '54, announces a plan for reallocation of production facilities to keep up with demand. Gen. Mgr. **F. J. Otterbein** says that frozen-food production is being expanded at such places as Walla Walla, Wash.; Caribou, Maine; Waseca, Minn.; Nampa, Idaho; Avon and Wayland, N. Y. The Mt. Morris plant in NY was closed recently. The Marion, Ind., plant, originally a condiment plant, has not proved efficient for quick-freezing vegetables and will be closed. **Otterbein** says, "We are concentrating production in areas where we get the best yields of the highest quality fruits & vegetables and where we can process them most efficiently. That's how we're increasing our volume and keeping unit costs down to meet the terrific competition in the frozen-foods business."

**Here & There in the Industry: Musselman High School,** Inwood, W. Va., built 5 years ago with money donated by the **Musselman Foundation,** is getting a new gymnasium with help of a new gift of $50,000 from the **Foundation,** according to joint statements by W. Va. school officials and **John A. Hauser,** president of the **C. H. Musselman Co.** . . . Fire damage of $50,000 was suffered by **Michigan Fruit Canners, Inc.,** in its **South Haven** warehouse in late March . . . A new 11,000 square foot building will house the Dallas, Tex., operation of **Charles Dennery, Inc.,** food manufacturers and jobbers . . . Membership in the **Tomato Council** now totals 72 canners in 11 states, after only 8 months of operation, president **W. R. Edmonds** reports. **Edmonds** is sales mgr. of **D. E. Foote Co., Inc.** . . . A three-story building, costing $1,800,000, will be built at Geneva, N. Y. to house the food science and chemical laboratories of the **New York State Agriculture Experiment Station.** Feature of the building will be a two-story, 60 x 120-foot pilot plant where canning, quick-freezing, dehydrating, and other types of food processing can be carried on in a full-scale operation.

. . . **Dorset Foods, Ltd., Long Island City, NY, has been** granted **AMA's** OK on its line of dietetic items—chicken rice dinner, beef stew, chicken fricassee, and chicken vegetable dinner . . . **Calpak** has appointed **Myron Close** as mgr. of sales research and planning; **E. M. Runyon** is new adv. and promotion mgr., succeeding **W. P. Rogers,** who is retiring; **A. W. Eames Jr.** is new member of **Calpak** board of directors, filling vacancy created by resignation of **G. R. Ward.** The late **A. W. Eames Sr.** was president of the corporation from 1940 until his death in 1948 . . . **Oxford Royal Mushroom Products Co.,** Kelton, Pa., is new name for **Lescarboura Mushroom Co. Oxford** retains same brand **"Oxford Royal,"** and is completing one of the most modern mushroom canneries in the industry, capable of handling 4 million pounds annually.

. . . **D. E. Winebrenner Co., Hanover, Pa., announces new** product, apricot nectar, to well-established line of fancy vegetables and juices . . . **Knouse Foods Co-op.,** Peach Glen, Pa., recently published a version of its **Lucky Leaf News** in Spanish for their Puerto Rican help . . . **Wm. J. Stange's** director of research, **Roy E. Morse,** announces reorganization of company's scientific staff into two major groups, chemical and operations. **W. A. Miller** is in charge of operations; **M. J. Hickey** is in charge of chemical . . . **Arthur N. Prater** is new vp and technical director of **Gentry div. of Consolidated Foods Corp** . . . **Lloyd A. Hall,** technical director of **Griffiths Laboratories,** recently spoke on food engineering before Lehigh Valley chapter of Pennsylvania Society of Professional Engineers, Allentown, Pa. . .

. . . **USDA announces that U. S. grades for standards of frozen** strawberries will not be revised; standards in effect since May 1, 1949, will continue effective . . . **Robert Gair Co.,** NYC, announces that **R. T. Hangar** is new div. mgr. of its Teterboro (N. J.) corrugated div.. also that **A. J. Brewster** is now mgr. of its Angelus Corrugated Box div. at Los Angeles . . . **Charles W. York,** formerly secretary of the **Pennsylvania Canners Association,** is new editor of the **Canner Magazine,** Chicago . . . **Continental Can Co.** has moved its district sales office in the Pacific Northwest from Seattle to Portland, with hq. in the Yeon Building, according to **W. W. Hodgson,** district sales mgr. . . . **F. D. Griffiths, F. D. Griffiths & Co.,** food brokers, 47 Yonge St., Toronto, announces that his brother **B. J. Griffiths** is now associated with the firm . . . A food brokerage company has been formed by **Arthur Bennett** and **Harry Mebus,** both well known in the food industry; firm name is **Bennett-Mebus Co.,** address 64 Pine St., San Francisco . . . The **Brooks-Daughterty Co.,** food brokers at 448 S. Hill St., Los Angeles, resulted from merger of **Kuhl-Warren & Co.** and **Harold C. Brooks, Inc.** . . . New companies: **Bode Foods, Inc.,** 14 E. Davenport St., Rhinelander, Wis., to handle wholesale and retail merchandising of frozen and other foods . . .**Orleans County Canning Co.,** Harris Center, N. Y., to conduct fruit and vegetable canning business . . . **Stay Fresh Packing Co., Inc.,** 204 Franklin St. NYC, to handle frozen and canned foods . . .

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*What's the history behind Van Camp's pork and beans, and why is this famous product the largest pork & bean seller in the industry? Read Part I of the Stokely-Van Camp story in the May issue of FOOD PACKER, published May 1.*

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